

# Mandatory Requirements for Airworthiness

**CAP 747**



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**Safety and Airspace Regulation Group**



**CAP 747**

**Mandatory Requirements for Airworthiness**

**1 January 2021**

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Issue 3, incorporating amendments to 2011/03

Issue 3, incorporating amendments to 2011/04

Issue 3, incorporating amendments to 2011/05

Issue 3, incorporating amendments to 2011/06

Issue 3, incorporating amendments to 2012/01

Issue 3, incorporating amendments to 2012/02

Issue 3, incorporating amendments to 2012/03

Issue 3, incorporating amendments to 2012/04

Issue 3, incorporating amendments to 2012/05

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## Amendment Record

Amendment Number	Amendment Date	Incorporated by	Incorporated on



## List of Effective Pages

Section	Part	Page	Date	Section	Part	Page	Date
		iii	25 June 2021	Section 1	Part 5	1	1 January 2021
		iv	25 June 2021	Section 2	Introduction	1	1 January 2021
		v	25 June 2021	Section 2	Contents	1	25 June 2021
		vi	25 June 2021	Section 2	Contents	2	25 June 2021
		vii	25 June 2021	Section 2	Contents	3	25 June 2021
Contents		1	1 January 2021	Section 2	Contents	4	1 January 2021
Foreword		1	25 June 2021	Section 2	Part 1, AESL	1	1 January 2021
Foreword		2	1 January 2021	Section 2	Part 1, ARV	1	1 January 2021
Foreword		3	1 January 2021	Section 2	Part 1, Auster	1	1 January 2021
Foreword		4	1 January 2021	Section 2	Part 1, Auster	2	1 January 2021
Foreword		5	1 January 2021	Section 2	Part 1, Auster	3	1 January 2021
Foreword		6	25 June 2021	Section 2	Part 1, Auster	4	1 January 2021
Revision History		1	1 January 2021	Section 2	Part 1, Auster	5	1 January 2021
Revision History		2	1 January 2021	Section 2	Part 1, Auster	6	1 January 2021
Revision History		3	1 January 2021	Section 2	Part 1, Auster	7	1 January 2021
Revision History		4	1 January 2021	Section 2	Part 1, Auster	8	1 January 2021
Revision History		5	1 January 2021	Section 2	Part 1, Av. Traders	1	1 January 2021
Revision History		6	25 June 2021	Section 2	Part 1, Av. Traders	2	1 January 2021
Section 1	Part 1	1	1 January 2021	Section 2	Part 1, Avro	1	1 January 2021
Section 1	Part 1	2	1 January 2021	Section 2	Part 1, Avro	2	1 January 2021
Section 1	Part 1	3	25 June 2021	Section 2	Part 1, Avro	3	1 January 2021
Section 1	Part 1	4	25 June 2021	Section 2	Part 1, Avro	4	1 January 2021
Section 1	Part 1	5	25 June 2021	Section 2	Part 1, Avro	5	1 January 2021
Section 1	Part 1	6	1 January 2021	Section 2	Part 1, Avro	6	1 January 2021
Section 1	Part 2	1	1 January 2021	Section 2	Part 1, Avro	7	1 January 2021
Section 1	Part 2	2	1 January 2021	Section 2	Part 1, Avro	8	1 January 2021
Section 1	Part 2	3	1 January 2021	Section 2	Part 1, Avro	9	1 January 2021
Section 1	Part 2	4	1 January 2021	Section 2	Part 1, Beagle	1	1 January 2021
Section 1	Part 2	5	1 January 2021	Section 2	Part 1, Beagle	2	1 January 2021
Section 1	Part 2	6	1 January 2021	Section 2	Part 1, Beagle	3	1 January 2021
Section 1	Part 2	7	1 January 2021	Section 2	Part 1, Beagle	4	1 January 2021
Section 1	Part 2	8	1 January 2021	Section 2	Part 1, Beagle	5	1 January 2021
Section 1	Part 2	9	1 January 2021	Section 2	Part 1, Bell	1	1 January 2021
Section 1	Part 2	10	1 January 2021	Section 2	Part 1, Bell	2	1 January 2021
Section 1	Part 2	11	1 January 2021	Section 2	Part 1, Boeing	1	1 January 2021
Section 1	Part 2	12	1 January 2021	Section 2	Part 1, Boeing	2	1 January 2021
Section 1	Part 2	13	1 January 2021	Section 2	Part 1, Boeing	3	1 January 2021
Section 1	Part 2	14	1 January 2021	Section 2	Part 1, Boeing	4	1 January 2021
Section 1	Part 3	1	1 January 2021	Section 2	Part 1, Boeing	5	25 June 2021
Section 1	Part 3	2	1 January 2021	Section 2	Part 1, Boeing	6	25 June 2021
Section 1	Part 3	3	1 January 2021	Section 2	Part 1, Boeing	7	25 June 2021
Section 1	Part 4	1	25 June 2021	Section 2	Part 1, Boeing	8	25 June 2021
Section 1	Part 4	2	1 January 2021	Section 2	Part 1, Boeing	9	25 June 2021
Section 1	Part 4	3	1 January 2021	Section 2	Part 1, Boeing	10	25 June 2021
Section 1	Part 4	4	1 January 2021	Section 2	Part 1, Boeing	11	25 June 2021
Section 1	Part 4	5	1 January 2021	Section 2	Part 1, Boeing	12	25 June 2021

Section	Part	Page	Date	Section	Part	Page	Date
Section 2	Part 1, Boeing	13	25 June 2021	Section 2	Part 1, DH104	3	1 January 2021
Section 2	Part 1, Boeing	14	25 June 2021	Section 2	Part 1, DH104	4	1 January 2021
Section 2	Part 1, Boeing	15	25 June 2021	Section 2	Part 1, DH104	5	1 January 2021
Section 2	Part 1, Boeing	16	25 June 2021	Section 2	Part 1, DH104	6	1 January 2021
Section 2	Part 1, Boeing	17	25 June 2021	Section 2	Part 1, DH104	7	1 January 2021
Section 2	Part 1, Boeing	18	25 June 2021	Section 2	Part 1, DH104	8	1 January 2021
Section 2	Part 1, Boeing	19	25 June 2021	Section 2	Part 1, DH104	9	1 January 2021
Section 2	Part 1, Boeing	20	25 June 2021	Section 2	Part 1, DH104	10	1 January 2021
Section 2	Part 1, Boeing	21	25 June 2021	Section 2	Part 1, DH104	11	1 January 2021
Section 2	Part 1, Boeing	22	25 June 2021	Section 2	Part 1, DH104	12	1 January 2021
Section 2	Part 1, Boeing	23	25 June 2021	Section 2	Part 1, DH104	13	1 January 2021
Section 2	Part 1, Boeing	24	25 June 2021	Section 2	Part 1, DH104	14	1 January 2021
Section 2	Part 1, Boeing	5	1 January 2021	Section 2	Part 1, DH104	15	1 January 2021
Section 2	Part 1, Boeing	6	1 January 2021	Section 2	Part 1, DH104	16	1 January 2021
Section 2	Part 1, Boeing	7	1 January 2021	Section 2	Part 1, DH104	17	1 January 2021
Section 2	Part 1, Boeing	8	1 January 2021	Section 2	Part 1, DH104	18	1 January 2021
Section 2	Part 1, Boeing	9	1 January 2021	Section 2	Part 1, DH114	1	1 January 2021
Section 2	Part 1, Boeing	10	1 January 2021	Section 2	Part 1, DH114	2	1 January 2021
Section 2	Part 1, Boeing	11	1 January 2021	Section 2	Part 1, DH114	3	1 January 2021
Section 2	Part 1, Boeing	12	1 January 2021	Section 2	Part 1, DH114	4	1 January 2021
Section 2	Part 1, Boeing	13	1 January 2021	Section 2	Part 1, DH114	5	1 January 2021
Section 2	Part 1, Bombardier	1	1 January 2021	Section 2	Part 1, DH114	6	1 January 2021
Section 2	Part 1, Cessna	1	1 January 2021	Section 2	Part 1, DH114	7	1 January 2021
Section 2	Part 1, DHC-1	1	1 January 2021	Section 2	Part 1, DH114	8	1 January 2021
Section 2	Part 1, DHC-1	2	1 January 2021	Section 2	Part 1, DH114	9	1 January 2021
Section 2	Part 1, DHC-1	3	1 January 2021	Section 2	Part 1, DH114	10	1 January 2021
Section 2	Part 1, DHC-1	4	1 January 2021	Section 2	Part 1, DH114	11	1 January 2021
Section 2	Part 1, DHC-1	5	1 January 2021	Section 2	Part 1, DH114	12	1 January 2021
Section 2	Part 1, DHC-1	6	1 January 2021	Section 2	Part 1, DH114	13	1 January 2021
Section 2	Part 1, DHC-1	7	1 January 2021	Section 2	Part 1, Dornier	1	1 January 2021
Section 2	Part 1, DHC-1	8	1 January 2021	Section 2	Part 1, Douglas	1	1 January 2021
Section 2	Part 1, DHC-1	9	1 January 2021	Section 2	Part 1, Douglas	2	1 January 2021
Section 2	Part 1, DHC-1	10	1 January 2021	Section 2	Part 1, Douglas	3	1 January 2021
Section 2	Part 1, DH 60-94	1	1 January 2021	Section 2	Part 1, Douglas	4	1 January 2021
Section 2	Part 1, DH 60-94	2	1 January 2021	Section 2	Part 1, Douglas	5	1 January 2021
Section 2	Part 1, DH 60-94	3	1 January 2021	Section 2	Part 1, Douglas	6	1 January 2021
Section 2	Part 1, DH 60-94	4	1 January 2021	Section 2	Part 1, Jodel	1	1 January 2021
Section 2	Part 1, DH 60-94	5	1 January 2021	Section 2	Part 1, Learjet	1	1 January 2021
Section 2	Part 1, DH 60-94	6	1 January 2021	Section 2	Part 1, Lockheed	1	1 January 2021
Section 2	Part 1, DH 60-94	6	1 January 2021	Section 2	Part 1, Luscombe	1	1 January 2021
Section 2	Part 1, DH 60-94	7	1 January 2021	Section 2	Part 1, Miles M14A	1	1 January 2021
Section 2	Part 1, DH 60-94	8	1 January 2021	Section 2	Part 1, Miles M14A	2	1 January 2021
Section 2	Part 1, DH 60-94	9	1 January 2021	Section 2	Part 1, Miles M38	1	1 January 2021
Section 2	Part 1, DH 60-94	10	1 January 2021	Section 2	Part 1, Miles M38	2	1 January 2021
Section 2	Part 1, DH 60-94	11	1 January 2021	Section 2	Part 1, Miles M38	3	1 January 2021
Section 2	Part 1, DH 60-94	12	1 January 2021	Section 2	Part 1, Miles M38	4	1 January 2021
Section 2	Part 1, DH104	1	1 January 2021	Section 2	Part 1, Miles M38	5	1 January 2021
Section 2	Part 1, DH104	2	1 January 2021	Section 2	Part 1, Miles M65	1	1 January 2021



Section	Part	Page	Date	Section	Part	Page	Date
Section 2	Part 1, Miles M65	2	1 January 2021	Section 2	Part 1, RR Continental	1	1 January 2021
Section 2	Part 1, Miles M65	3	1 January 2021	Section 2	Part 1, RR Continental	2	1 January 2021
Section 2	Part 1, Miles M65	4	1 January 2021	Section 2	Part 1, RR Continental	3	1 January 2021
Section 2	Part 1, Miles M65	5	1 January 2021	Section 2	Part 1, RR Gem	1	1 January 2021
Section 2	Part 1, Perc. Prentice	1	1 January 2021	Section 2	Part 1, RR Gipsy	1	1 January 2021
Section 2	Part 1, Perc. Proctor	1	1 January 2021	Section 2	Part 1, RR Gipsy	2	1 January 2021
Section 2	Part 1, Perc. Proctor	2	1 January 2021	Section 2	Part 1, RR Gipsy	3	1 January 2021
Section 2	Part 1, Perc. Proctor	3	1 January 2021	Section 2	Part 1, RR Gnome	1	1 January 2021
Section 2	Part 1, Perc. Proctor	4	1 January 2021	Section 2	Part 1, RR Gnome	2	1 January 2021
Section 2	Part 1, Perc. Proctor	5	1 January 2021	Section 2	Part 1, RR Gnome	3	1 January 2021
Section 2	Part 1, Piper	1	25 June 2021	Section 2	Part 1, RR Tyne	1	1 January 2021
Section 2	Part 1, Piper	2	25 June 2021	Section 2	Part 1, RR Tyne	2	1 January 2021
Section 2	Part 1, Piper	3	25 June 2021	Section 2	Part 1, RR Tyne	3	1 January 2021
Section 2	Part 1, Piper	4	25 June 2021	Section 2	Part 1, RR Viper	1	1 January 2021
Section 2	Part 1, Piper	5	25 June 2021	Section 2	Part 1, RR Viper	2	1 January 2021
Section 2	Part 1, Piper	6	25 June 2021	Section 2	Part 1, RR Viper	3	1 January 2021
Section 2	Part 1, Piper	7	25 June 2021	Section 2	Part 1, RR Viper	4	1 January 2021
Section 2	Part 1, Piper	8	25 June 2021	Section 2	Part 1, RR Viper	5	1 January 2021
Section 2	Part 1, Rollason	1	1 January 2021	Section 2	Part 1, RR Viper	6	1 January 2021
Section 2	Part 1, Scheibe	1	1 January 2021	Section 2	Part 1, RR Viper	7	1 January 2021
Section 2	Part 1, Scheibe	2	1 January 2021	Section 2	Part 1, BAe Dynamics	1	1 January 2021
Section 2	Part 1, Scott. Aviation	1	1 January 2021	Section 2	Part 1, BAe Dynamics	2	1 January 2021
Section 2	Part 1, Scott. Aviation	2	1 January 2021	Section 2	Part 1, BAe Dynamics	3	1 January 2021
Section 2	Part 1, Scott. Aviation	3	1 January 2021	Section 2	Part 1, BAe Dynamics	4	1 January 2021
Section 2	Part 1, Scott. Aviation	4	1 January 2021	Section 2	Part 1, BAe Dynamics	5	1 January 2021
Section 2	Part 1, Scott. Aviation	5	1 January 2021	Section 2	Part 1, BAe Dynamics	6	1 January 2021
Section 2	Part 1, Scott. Aviation	6	1 January 2021	Section 2	Part 1, BAe Dynamics	7	1 January 2021
Section 2	Part 1, Scott. Aviation	7	1 January 2021	Section 2	Part 1, BAe Dynamics	8	1 January 2021
Section 2	Part 1, Scott. Aviation	8	1 January 2021	Section 2	Part 1, BAe Dynamics	9	1 January 2021
Section 2	Part 1, Scott. Aviation	9	1 January 2021	Section 2	Part 1, BAe Dynamics	10	1 January 2021
Section 2	Part 1, Scott. Aviation	10	1 January 2021	Section 2	Part 1, BAe Dynamics	11	1 January 2021
Section 2	Part 1, Scott. Aviation	11	1 January 2021	Section 2	Part 1, BAe Dynamics	12	1 January 2021
Section 2	Part 1, Scott. Aviation	12	1 January 2021	Section 2	Part 1, BAe Dynamics	13	1 January 2021
Section 2	Part 1, SlingsbyT61	1	1 January 2021	Section 2	Part 1, BAe Dynamics	14	1 January 2021
Section 2	Part 1, SlingsbyT61	2	1 January 2021	Section 2	Part 1, Dowty Aerosp	1	1 January 2021
Section 2	Part 1, Stampe	1	1 January 2021	Section 2	Part 1, Dowty Aerosp	2	1 January 2021
Section 2	Part 1, Trago Mills	1	1 January 2021	Section 2	Part 1, Dowty Aerosp	3	1 January 2021
Section 2	Part 1, Westland	1	1 January 2021	Section 2	Part 1, Dowty Aerosp	4	1 January 2021
Section 2	Part 1, Westland	2	1 January 2021	Section 2	Part 1, Dowty Aerosp	5	1 January 2021
Section 2	Part 1, Alvis	1	1 January 2021	Section 2	Part 1, Dowty Aerosp	6	1 January 2021
Section 2	Part 1, RR Cheetah	1	1 January 2021	Section 2	Part 1, Dowty Aerosp	7	1 January 2021
Section 2	Part 1, RR Cheetah	2	1 January 2021	Section 2	Part 1, Dowty Aerosp	8	1 January 2021
Section 2	Part 1, RR Cirrus	1	1 January 2021	Section 2	Part 1, Dowty Aerosp	9	1 January 2021
Section 2	Part 1, RR Cirrus	2	1 January 2021	Section 2	Part 1, Dowty Aerosp	10	1 January 2021
Section 2	Part 1, RR Cirrus	3	1 January 2021	Section 2	Part 1, Dowty Aerosp	11	1 January 2021
Section 2	Part 1, RR Cirrus	4	1 January 2021	Section 2	Part 1, Dowty Aerosp	12	1 January 2021
Section 2	Part 1, RR Cirrus	5	1 January 2021	Section 2	Part 1, Dowty Aerosp	13	1 January 2021
Section 2	Part 1, RR Cirrus	6	1 January 2021	Section 2	Part 1, Dowty Aerosp	14	1 January 2021

Section	Part	Page	Date	Section	Part	Page	Date
Section 2	Part 1, Dowty Aerosp	15	1 January 2021	Section 2, Part 4, GR No. 16		2	1 January 2021
Section 2	Part 1, Dowty Aerosp	16	1 January 2021	Section 2, Part 4, GR No. 17		1	1 January 2021
Section 2	Part 1, Dowty Aerosp	17	1 January 2021	Section 2, Part 4, GR No. 17		2	1 January 2021
Section 2	Part 1, Dowty Aerosp	18	1 January 2021	Section 2, Part 4, GR No. 17		3	1 January 2021
Section 2	Part 1, Dowty Aerosp	19	1 January 2021	Section 2, Part 4, GR No. 17		4	1 January 2021
Section 2	Part 1, Dowty Aerosp	20	1 January 2021	Section 2, Part 4, GR No. 18		1	1 January 2021
Section 2	Part 1, Fairey Reed	1	1 January 2021	Section 2, Part 4, GR No. 18		2	1 January 2021
Section 2	Part 1, Permali	1	1 January 2021	Section 2, Part 4, GR No. 19		1	1 January 2021
Section 2	Part 1, Equipment	1	1 January 2021	Section 2, Part 4, GR No. 19		2	1 January 2021
Section 2	Part 1, Equipment	2	1 January 2021	Section 2, Part 4, GR No. 19		3	1 January 2021
Section 2	Part 1, Equipment	3	1 January 2021	Section 2, Part 4, GR No. 23		1	1 January 2021
Section 2	Part 1, Equipment	4	1 January 2021	Section 2, Part 4, GR No. 23		2	1 January 2021
Section 2	Part 1, Equipment	5	1 January 2021	Section 2, Part 4, GR No. 23		3	1 January 2021
Section 2	Part 1, Equipment	6	1 January 2021	Section 2, Part 4, GR No. 23		4	1 January 2021
Section 2	Part 1, Equipment	7	1 January 2021	Section 2, Part 4, GR No. 23		5	1 January 2021
Section 2	Part 1, Equipment	8	1 January 2021	Section 2, Part 4, GR No. 23		6	1 January 2021
Section 2	Part 1, Equipment	9	25 June 2021	Section 2, Part 4, GR No. 24		1	1 January 2021
Section 2	Part 1, Equipment	10	25 June 2021	Section 2, Part 4, GR No. 24		2	1 January 2021
Section 2	Part 1, Equipment	11	25 June 2021	Section 2, Part 4, GR No. 24		3	1 January 2021
Section 2	Part 1, Equipment	12	25 June 2021	Section 2, Part 4, GR No. 24		4	1 January 2021
Section 2	Part 1, Equipment	13	25 June 2021	Section 2, Part 4, GR No. 24		5	1 January 2021
Section 2	Part 1, Equipment	14	25 June 2021	Section 2, Part 4, GR No. 24		6	1 January 2021
Section 2	Part 1, Equipment	15	1 January 2021	Section 2, Part 4, GR No. 24		7	1 January 2021
Section 2	Part 1, Equipment	16	1 January 2021	Section 2, Part 4, GR No. 24		8	1 January 2021
Section 2	Part 1, Equipment	17	1 January 2021	Section 2, Part 4, GR No. 24		9	1 January 2021
Section 2	Part 2	1	25 June 2021	Section 2, Part 4, GR No. 25		1	1 January 2021
Section 2	Part 2	2	25 June 2021	Section 2, Part 4, GR No. 25		2	1 January 2021
Section 2	Part 3	1	25 June 2021	Section 2, Part 5, GC No. 1		1	1 January 2021
Section 2	Part 3	2	1 January 2021	Section 2, Part 5, GC No. 1		2	1 January 2021
Section 2	Part 4	1	1 January 2021	Section 2, Part 5, GC No. 1		3	1 January 2021
Section 2, Part 4, GR No. 4		1	1 January 2021	Section 2, Part 5, GC No. 1		4	1 January 2021
Section 2, Part 4, GR No. 4		2	1 January 2021	Section 2, Part 5, GC No. 6		1	1 January 2021
Section 2, Part 4, GR No. 4		3	1 January 2021	Section 2, Part 5, GC No. 6		2	1 January 2021
Section 2, Part 4, GR No. 6		1	1 January 2021	Section 2, Part 5, GC No. 6		3	1 January 2021
Section 2, Part 4, GR No. 6		2	1 January 2021	Section 2, Part 5, GC No. 6		4	1 January 2021
Section 2, Part 4, GR No. 8		1	1 January 2021	Section 2, Part 5, GC No. 6		5	1 January 2021
Section 2, Part 4, GR No. 8		2	1 January 2021	Section 2, Part 5, GC No. 6		6	1 January 2021
Section 2, Part 4, GR No. 8		3	1 January 2021	Section 2, Part 5, GC No. 6		7	1 January 2021
Section 2, Part 4, GR No. 9		1	1 January 2021	Section 2, Part 5, GC No. 6		8	1 January 2021
Section 2, Part 4, GR No. 9		2	1 January 2021	Section 2, Part 5, GC No. 6		9	1 January 2021
Section 2, Part 4, GR No. 10		1	1 January 2021	Section 2, Part 5, GC No. 6		10	1 January 2021
Section 2, Part 4, GR No. 10		2	1 January 2021	Section 2, Part 5, GC No. 7		1	1 January 2021
Section 2, Part 4, GR No. 10		3	1 January 2021	Section 2, Part 5, GC No. 7		2	1 January 2021
Section 2, Part 4, GR No. 10		4	1 January 2021	Section 2, Part 5, GC No. 7		3	1 January 2021
Section 2, Part 4, GR No. 11		1	1 January 2021	Section 2, Part 5, GC No. 7		4	1 January 2021
Section 2, Part 4, GR No. 11		2	1 January 2021	Section 2, Part 5, GC No. 7		5	1 January 2021
Section 2, Part 4, GR No. 15		1	1 January 2021	Appendix 1		1	1 January 2021
Section 2, Part 4, GR No. 16		1	1 January 2021	Appendix 1		2	1 January 2021

Section	Part	Page	Date	Section	Part	Page	Date
Appendix 1		3	1 January 2021				
Appendix 1		4	1 January 2021				
Appendix 1		5	1 January 2021				
Appendix 1		6	1 January 2021				
Appendix 1		7	1 January 2021				
Appendix 1		8	1 January 2021				
Appendix 1		9	1 January 2021				
Appendix 1		10	1 January 2021				
Appendix 1		11	1 January 2021				

INTENTIONALLY LEFT BLANK

# Contents

	<b>List of Effective Pages</b>
	<b>Foreword</b>
	<b>Revision History</b>
<b>Section 1</b>	<b>General Information</b>
<b>Part 1</b>	<b>Introduction and Guide to Use</b>
<b>Part 2</b>	<b>Lists of Non-Part 21 Products, their Classification, and States of Design</b>
<b>Part 3</b>	<b>Lists of Part 21 Aircraft Types on the G-Register with a Specific Airworthiness Specification (SAS) originally issued by EASA</b>
<b>Part 4</b>	<b>Lists of Part 21 Products where the UK is the State of Design</b>
<b>Part 5</b>	<b>Sources of Data</b>
<b>Section 2</b>	<b>Mandatory Information</b>
	<b>Introduction</b>
	<b>Section 2, Contents</b>
<b>Part 1</b>	<b>Airworthiness Directives and Mandatory Information Issued by the CAA</b>
	<b>Aircraft</b>
	<b>Engines</b>
	<b>Propellers</b>
	<b>Equipment</b>
<b>Part 2</b>	<b>State of Design Airworthiness Directives not Adopted by the CAA (from 01/01/2021)</b>
<b>Part 3</b>	<b>Requirements Applicable to State/Public Service Aircraft</b>
<b>Part 4</b>	<b>Generic Requirements (GRs)</b>
<b>Part 5</b>	<b>Generic Concessions (GCs)</b>
<b>Appendix 1</b>	<b>Requirements Removed</b>
	<b>CAA Airworthiness Directives and Mandatory Requirements removed from CAP 747</b>

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# Foreword

## 1 Introduction

This CAP 747 is the means by which airworthiness requirements made mandatory by the CAA are notified; (pursuant to Article 39 of the Air Navigation Order 2016 as amended). This publication also identifies the sources for other requirements made mandatory for UK-registered aircraft included in the scope of Regulation (EU) 2018/1139.

NOTE: The European Union (Withdrawal) Act 2018 converts EU law, as it stands up to 31 December 2020, into domestic law and preserves laws made in the UK to implement EU obligations. This means that all EU aviation law in force and applicable up to 31 December 2020 has been retained in UK domestic law. The body of converted EU law (and preserved domestic law) is referred to collectively as "retained EU law". Throughout this document, references to [the EU Regulations e.g. "Regulation \(EU\) 2018/1139" and Regulation \(EU\) No. 1321/2014](#), refer to [the](#) "retained EU law".

## 2 ICAO Compliance Statement to CAP 747 Mandatory Requirements for Airworthiness

- 2.1 The Civil Aviation Authority (Chicago Convention) Directions 2007, issued by the Department for Transport (DfT), require the Civil Aviation Authority (CAA) to ensure that it acts consistently with the obligations placed on the UK under the Convention on International Civil Aviation (Chicago Convention) of December 1944.
- 2.2 This document is published in support of the CAA's discretionary powers contained in the Air Navigation Order and includes requirements based on certain International Standards and Recommended Practices (SARPs) contained in Annexes to the Chicago Convention.
- 2.3 It is the policy of the CAA to have reference to this document when exercising the discretionary powers referred to above and, in particular, it will exercise those powers to ensure the effective implementation of any such requirements based on SARPs.

## 3 Classification of Products

- 3.1 Each aircraft type is categorised as either:
  - a "Part 21 aircraft"; (an aircraft that is included in the scope of Regulation (EU) 2018/1139); or
  - a "non-Part 21 aircraft"; (an aircraft that is subject to the Air Navigation Order).
- 3.2 Aircraft that fall within the categories set out in Annex I to Regulation (EU) 2018/1139 are "non-Part 21 aircraft" types. In addition, individual aircraft that are operated for certain State or public service purposes as set out in Article 2 of Regulation (EU) 2018/1139 are subject to national [ANO](#) regulations; (e.g. military, customs, police, search and rescue, firefighting, border control, coastguard aircraft). All other aircraft are "Part 21 aircraft" regardless of their State of Design or State of Manufacture.
- 3.3 For both Part 21 and non-Part 21 aircraft, CAA requirements, and requirements notified by the State of Design of the aircraft, (and its engines, propellers and equipment as applicable) may be mandatory. Section 1, Part 5 of this CAP 747 identifies the sources of these mandatory requirements.

## 4 Status

- 4.1 This CAP 747 is the means by which airworthiness requirements made mandatory by the CAA are notified.
- 4.2 Some requirements previously made mandatory for UK-registered aircraft were withdrawn on 28 September 2003, when European regulations came into force. Aircraft owners and operators should ensure that:
- any retained modifications installed in order to comply with previous additional UK requirements continue to be maintained in accordance with all applicable approved data and service information;
  - any de-modification of an aircraft is performed by approved organisations or licensed aircraft engineers in accordance with approved airworthiness documentation. Following de-modification, a review and re-issue of the continued airworthiness instructions must be carried out and a Certificate of Release to Service obtained;
  - any data from the Type Certificate Holder that has previously been made mandatory by the CAA, but is no longer mandatory, should still be considered for inclusion in the maintenance programme. Failure to do so could expose the aircraft to safety hazards and may invalidate the Certificate of Airworthiness.

## 5 UK Withdrawal from the EU

- 5.1 As a result of the UK leaving the EU, and because the CAA is no longer a member of EASA, the CAA has taken on State of Design responsibilities from EASA for products where the UK is State of Design. The CAA is now responsible for fulfilling the UK's obligations as State of Design or Manufacture specified in Part II of Annex 8 – "Airworthiness of Aircraft" to the Convention on International Civil Aviation.
- 5.2 Through the EU (Withdrawal) Act 2018, and a number of statutory instruments, all EU aviation law in force and applicable up to 31 December 2020 has been retained in UK domestic law. Hence these aviation regulations continue to apply to all Part 21 products, whether or not the UK is State of Design.
- 5.3 Non-Part 21 products (i.e. that fall within the categories set out in Annex I of Regulation (EU) 2018/1139) continue to be the responsibility of the UK CAA.
- 5.4 Lists of Part 21 products where the UK is the State of Design are provided in Section 1 Part 4.

## 6 Generic Concessions

- 6.1 A number of concessions are set out in Section 2, Part 5 of this CAP 747. These may be used by UK-registered aircraft subject to the limitations and conditions specified.

## 7 Interpretation

- 7.1 The Requirements, with or without explanatory material, should not be regarded as constituting text book material. The interpretation of the Requirements against a background of current aeronautical knowledge is essential.
- 7.2 Mandatory clauses are denoted by the use of "shall" or "must"; "should" or "may" are used in the text to introduce permissive or recommended clauses.



- 7.3 Imperatives such as “ensure”, “prevent” and “shall be designed”, imply that all steps deemed necessary will be taken, on the basis of the knowledge and techniques available at the time.
- 7.4 It is implicit in requirements expressed qualitatively (e.g. “readily visible”, “adequately tested”, etc.) that the CAA will adjudicate in cases where doubt exists.
- 7.5 An Airworthiness Directive is a document issued or adopted by the Authority of the State of Registry of an aircraft which mandates the actions to be performed to restore an acceptable level of safety to an aircraft when an unsafe condition has been identified.
- 7.6 Words purporting the masculine gender include the feminine.

## **8 Notification of Requirements**

- 8.1 Aircraft on the UK Register are required by law to comply with applicable Airworthiness Directives (ADs) issued by the UK CAA, EASA, and the National Aviation Authority (NAA) of the State of Design. See Guide to Identifying the Applicable Requirements, in Section 1, Part 1.

### **8.2 Non-Emergency ADs**

- 8.2.1 For Part 21 products where the UK is the State of Design, Airworthiness Directives published up to 31 December 2020 are listed in the EASA Safety Publications Tool on the EASA website at: <https://ad.easa.europa.eu/>. Airworthiness Directives published from 1 January 2021 are published on the CAA AD website before being incorporated into CAP 747 Section 2, Part 1. The CAA AD website is: <https://www.caa.co.uk/Commercial-industry/Aircraft/Airworthiness/Continuing-airworthiness/Airworthiness-Directives/>.
- 8.2.2 For Part 21 products where the UK is not the State of Design, Airworthiness Directives published up to 31 December 2020 are listed on the EASA Safety Publications Tool on the EASA website. [Note that the EASA Safety Publications Tool may not include some European ADs issued by the NAA before 28 September 2003 and most foreign State of Design ADs issued before August 2006. Any State of Design AD not (yet) located in the EASA Safety Publications Tool should be retrieved from the original State of Design NAA.] For Airworthiness Directives published from 1 January 2021, contact the National Aviation Authority of the State of Design. A contact list is available on the CAA website, see CAP 747 Section 1, Part 5. From 1 January 2021, any State of Design Airworthiness Directives not adopted by the CAA are identified in CAP 747 Section 2 Part 2. Airworthiness Directives published by the CAA from 1 January 2021 are published on the CAA AD website before being incorporated into CAP 747 Section 2, Part 1. The CAA AD website is: <https://www.caa.co.uk/Commercial-industry/Aircraft/Airworthiness/Continuing-airworthiness/Airworthiness-Directives/>.
- 8.2.3 For non-Part 21 products where the UK is State of Design, Airworthiness Directives are published on the CAA AD website before being incorporated into CAP 747.
- 8.2.4 Section 1, Part 1 provides a guide to identifying the applicable mandatory requirements for your product.
- 8.2.5 The CAA is responsible for notifying other ICAO Contracting States of Airworthiness Directives for UK products. Notification will be provided electronically after the State of Registry has registered with the CAA's free publications subscription service at [www.caa.co.uk](http://www.caa.co.uk) > Publications > Subscriptions and choose the 'Safety Critical Information' category.

### **8.3 Emergency ADs**

- 8.3.1 Where urgency dictates that a short timescale is required to address an unsafe condition, the CAA, EASA or NAA will issue an Emergency Airworthiness Directive (EAD).
- 8.3.2 All EADs for affected UK-registered aircraft are published by the CAA on its website at <http://publicapps.caa.co.uk/modalapplication.aspx?appid=11&mode=list&type=sercat&id=54>.
- 8.3.3 To receive notification when a new EAD is published owners/ operators/ maintenance organisations etc. should register with the CAA's free publications subscription service at [www.caa.co.uk](http://www.caa.co.uk) > Publications > Subscriptions and choose the 'Safety Critical Information' category. Existing Subscribers should ensure this category is added to their subscription. Subscribers will then be notified every time a new EAD is published on the CAA website.
- 8.3.4 EADs will be available for download from the CAA website until incorporated into CAP 747. EADs issued by the CAA will have been incorporated into CAP 747 before they are removed; other EADs may be obtained from EASA or the originating NAA as applicable.
- 8.3.5 In order for NAAs of ICAO Contracting States of Registry to receive UK Emergency ADs in a timely manner they must also subscribe to the above service.

## **9 Responsibilities of Owners/Operators and Individuals/Organisations Carrying Out Maintenance and Overhaul**

- 9.1 In order to ensure compliance with all applicable mandatory requirements, the owners and operators of aircraft must ensure that they are aware of the content of any Airworthiness Directives issued by the National Aviation Authority of the State of Design and EASA and of any applicable CAA Airworthiness Directives or mandatory requirements.
- 9.2 In addition, organisations or individuals undertaking maintenance and overhaul must ensure that they are in receipt of Airworthiness Directives issued by the National Aviation Authority of the State of Design and EASA, and any CAA Airworthiness Directives or mandatory requirements applicable to the Products, Parts and Appliances which they maintain or overhaul.

NOTE: When an individual or organisation maintains or overhauls Products, Parts and Appliances for an owner/operator whose aircraft is not registered in the United Kingdom, the individual/organisation must make arrangements with that owner/operator to receive any Airworthiness Directives issued or adopted by the Civil Aviation Authority of the State of Registry.

## **10 Repetitive Inspection**

### **10.1 Non-Part 21 Aircraft used for Purposes Other Than Commercial Operations**

- 10.1.1 Where an Airworthiness Directive requires an inspection to be carried out at intervals not exceeding 24 hours (elapsed time) the CAA may invoke the authorisation given under paragraph 10.1.2 below, for inspection by the pilot in command. In such cases, the text of the Airworthiness Directive will prescribe the authorisation.
- 10.1.2 The Civil Aviation Authority (CAA), in exercise of its powers under Article 48(1) (c) of the Air Navigation Order 2016 as amended, hereby authorises a pilot as a person competent to issue a Certificate of Release to Service in respect of a mandatory inspection required by an Airworthiness Directive where the inspection recurs at periods not exceeding 24 hours elapsed time, subject to the following conditions:

- a) The pilot must hold a Group or Type rated licence applicable to the type quoted in the inspection.
  - b) The pilot must have sufficient technical knowledge and have received specific training to provide that person with the competence to accomplish the inspection which may also require the use of simple visual inspection aids.
  - c) The specific training must be provided by an appropriately licenced aircraft maintenance engineer or organisation approved by the CAA for that purpose.
- 10.1.3 When certifying an inspection in accordance with paragraph 10.1.2 the certifying signature will be that of the pilot followed by his licence number.

## **10.2 Aircraft Subject to Regulation (EU) 2018/1139**

- 10.2.1 All maintenance-related certifications for aircraft subject to Regulation (EU) 2018/1139 must be made by persons authorised in accordance with Regulation (EU) No. 1321/2014. The authorisation of 10.1.2 above cannot be used.
- 10.2.2 For compliance with a repetitive pre-flight mandatory action, where the Airworthiness Directive states specifically that the flight crew may carry out the action, the action must be carried out in accordance with the relevant Part of Regulation (EU) No. 1321/2014. The appropriate references (as applicable) are:
- Annex I (Part M), M.A.606(h)(1)
  - Annex II (Part 145), 145.A.30(j)(3)
  - Annex Vd (Part-CAO), CAO.A.040 (c)(1)
- 10.2.3 When certifying an inspection in accordance with paragraph 10.2.2 the certifying signature will be that of the person authorised by the Part-145 organisation and the relevant authorisation reference shall be recorded.

## **11 Mandatory Changes to Flight Manuals or Performance Schedules**

- 11.1 Where an Airworthiness Directive introduces a change to an aircraft Flight Manual or Performance Schedule, the Owner/Operator of the affected aircraft must ensure that the change is made by attaching the Airworthiness Directive or the documents that it specifies, to the Flight Manual or Performance Schedule.
- NOTE: Where permission has been given to utilise an Operations Manual in lieu of the Flight Manual, the Owner/Operator must ensure that the information specified in the Airworthiness Directive is embodied in the Operations Manual within the specified compliance time.

## **12 Extension of Airworthiness Directive Compliance Timescale**

- 12.1 Aircraft owners, operators and contracted maintenance organisations must assess all Airworthiness Directives relating to relevant aircraft types and initiate early requisition and/or provision of aircraft parts and/or maintenance resources to meet the Airworthiness Directive compliance timescales.
- 12.2 Any application to extend an Airworthiness Directive compliance timescale will be assessed by the CAA on a case-by-case basis. The applicant, normally supported by the organisation responsible for the type design, must demonstrate, to the satisfaction of the CAA, an equivalent level of safety. Extensions of this nature are intended to be used in exceptional circumstances that could not reasonably have been foreseen by the owner, operator or contracted maintenance organisation.

### **13 Airworthiness Directive Alternative Method of Compliance (AMOC)**

- 13.1 Any application to satisfy an Airworthiness Directive by means of an 'alternative method of compliance' will be assessed by the CAA on a case by case basis and will normally need to be supported by the organisation responsible for the type design. The applicant must demonstrate, to the satisfaction of the CAA, an equivalent level of safety. A request for an AMOC should be made to the CAA. Further information is available on the CAA website at: <https://www.caa.co.uk/Commercial-industry/Aircraft/Airworthiness/Type-design-approvals/Alternative-Method-of-Compliance-to-an-Airworthiness-Directive/>
- 13.2 The UK aviation safety arrangements with Canada and Brazil allow for automatic acceptance of certain AMOCs issued by the airworthiness authorities of these countries when acting as State of Design for the product, part or appliance. AMOCs issued in the United States of America by the FAA, when acting as State of Design, are subject to a CAA Decision (Ref: [ORS9 - CAA Decision No. 4](#)). The text of these arrangements may be obtained from the CAA website: <https://www.caa.co.uk/Commercial-industry/Aircraft/Airworthiness/Organisation-and-maintenance-programme-approvals/Bilateral-agreements/What-is-a-bilateral-agreement/>

### **14 Accuracy of Information**

- 14.1 The information presented in CAP 747 is the best available on the date that each amendment is approved for publication and printing.

### **15 Amendments**

- 15.1 Amendments to CAP 747 are published as required. Each page is identified by the date of issue or date at which it is amended. Material differences from the previous issue are marked with marginal lines. Where text has overflowed, the affected pages are identified by the date of re-issue. The remaining pages retain their existing dates and are therefore not re-supplied.

### **16 Enquiries**

- 16.1 Any enquiries regarding CAP 747 should be sent to the Future Safety Technical Support Team (mail to: [FSTechnicalSupportTeam@caa.co.uk](mailto:FSTechnicalSupportTeam@caa.co.uk)).

## Revision History

### Initial Issue

**June 2004**

The initial issue of CAP 747 was brought about by the coming into force of European legislation, creating the European Aviation Safety Agency (EASA) and the consequent need for the CAA to declare its intention to retain certain requirements for UK registered aircraft.

### Issue 2

**September 2004**

The purpose of Issue 2 was to provide a single point of reference for all mandatory information for continuing airworthiness, including airworthiness directives, as applicable to civil aircraft registered in the UK.

### Issue 3

**November 2009**

The purpose of Issue 3 was to provide all mandatory information for continuing airworthiness as issued by the CAA in one CAP. Therefore all ADs issued by EASA have been removed and are available on the EASA website.

### Issue 3, amdt 2010/01

**January 2010**

CAP 747 is amended to update the EAD Subscription link in the Foreword and to correct errors incorporated at Issue 3, including:

- the removal of previously cancelled ADs, the inclusion of AD G-2005-0030 as this is currently unavailable elsewhere, and a correction to the names in the footers in Section 2, Part 1;
- the removal from Section 2 Part 3 of GR Nos. 5 and 7 (both previously cancelled); and
- the inclusion of – Aircraft engaged in Military, Police, Customs or similar services in Section 2, Part 2.

### Issue 3, amdt 2010/02

**February 2010**

CAP 747 is amended to update the references to the ANO 2009 and incorporate some editorial corrections.

### Issue 3, amdt 2010/03

**March 2010**

CAP 747 has been amended to:

- update the product list;
- remove CAA AD 003-10-2001 which has been cancelled and superseded by EASA AD 2010-0023;
- replace in its entirety GR No. 23.

### Issue 3, amdt 2010/04

**June 2010**

CAP 747 is amended to revise the Lists of Products, their Classification, and States of Design, following an update by EASA.

**Issue 3, amdt 2010/05****September 2010**

CAP 747 has been amended to:

- update the product list;
- update some of the Foreign NAAs' website addresses;
- revise GR No. 3.

**Issue 3, amdt 2010/06****November 2010**

CAP 747 has been amended to:

- update the product list;
- revise GR No. 3;
- correct an error in Appendix 1.

**Issue 3, amdt 2011/01****February 2011**

CAP 747 has been amended to:

- update the product list;
- insert CAA AD 001-07-78 which should have been included in the original issue of Issue 3, and which negates the need for the inclusion of CAA AD 2854 pre 80;
- remove CAA AD 2854 pre 80;
- revise GC No. 6, Appendix 1 to GC No. 6 and Schedule 2 to GC No. 6;
- add CAA AD 2854 pre 80 to Appendix 1 Requirements Removed.

**Issue 3, amdt 2011/02****March 2011**

CAP 747 has been amended to:

- update the product list.

**Issue 3, amdt 2011/03****May 2011**

CAP 747 has been amended to:

- update the product list;
- update the Dutch NAA contact details;
- correct a typographical error in Schedule 2 to GC No. 6.

**Issue 3, amdt 2011/04****June 2011**

CAP 747 has been amended to:

- update the product list.

**Issue 3, amdt 2011/05****August 2011**

CAP 747 has been amended to:

- update the product list.

**Issue 3, amdt 2011/06****October 2011**

CAP 747 has been amended to:

- update the product list.
- update Part 2 Requirements applicable to State/public service aircraft.

**Issue 3, amdt 2012/01****February 2012**

CAP 747 has been amended to:

- update Figure 3 reference to Mandatory Permit Directives under General Information;
- update the product list;
- update the NAA contact details for New Zealand;
- remove CAA AD 004-05-91 which has been cancelled and superseded by FAA AD 93-06-06;
- update Appendix 1 to include the cancellation of AD 004-05-91 and to correct an entry;
- insert new GR No 25.

**Issue 3, amdt 2012/02****May 2012**

CAP 747 has been amended to:

- update the product list;
- replace in its entirety GC No 6.

**Issue 3, amdt 2012/03****June 2012**

CAP 747 has been amended to:

- insert UK CAA AD G-2012-0001.

**Issue 3, amdt 2012/04****November 2012**

CAP 747 has been amended to:

- Revise Section 1, Parts 1 and 2

**NOTE:** All EASA products with a type-certificate either issued or accepted by EASA, or a specific airworthiness specification issued by EASA are removed from Section 1, Part 2 'List of Products, their Classification, and States of Design';

- Update references to CAP 562;
- Revise GR No. 23;
- Insert new GC No. 7, its Appendix 1 and Schedule 1.

**Issue 3, amdt 2012/05****December 2012**

CAP 747 has been amended to:

- Update Foreword, paragraph 1;
- Update Section 1 Part 1 and Part 2;
- Update GR No. 23;

**NOTE:** In addition to the technical revision of GR No. 23 at 2012/04 amdt, further editorial changes and minor technical amendments, convenient to be included at this time have been incorporated;

- Revise GR No. 24.

**Issue 3, amdt 2014/01****February 2014**

CAP 747 has been amended to:

- Insert UK CAA ADs: G-2013-0001, G-2013-0002 and RAF Radio Equipment;
- Revise GR 24, Paragraph 5;
- Incorporate some editorial corrections.

**Issue 3, amdt 2014/02****November 2014**

CAP 747 has been amended to:

- Insert UK CAA ADs: G-2014-0001-E, G-2014-0002-E and G-2014-0003-E;
- Delete GRs: 2, 3, 13, 14, 20, 21 and 22;
- Delete GCs: 2, 3, 4 and 5;
- Incorporate some editorial corrections.

**NOTE:** Several Generic Requirements (GRs) have been deleted as a result of the implementation of EASA EU OPS rules.

Also, several Generic Concessions (GCs) have been withdrawn from CAP 747 to support CAA's updated policy on Motor Gasoline (MOGAS).

**Issue 3, amdt 2016/01****30 July 2016**

CAP 747 has been amended to:

- Update Section 1 Part 1, Introduction and Guide to Use;
- Update Section 1 Part 2, Products List;
- Update Section 1 Part 3, Sources of Data;
- Insert UK CAA AD: G-2015-0001R1;
- Replace in entirety GR No 10;
- Update GRs: 17 and 24.

**Issue 3, amdt 2017/01****21 July 2017**

CAP 747 has been amended to:

- Update Section 1 Part 2, Products List;
- Replace in entirety GR No 10.



**Issue 3, amdt 2020/01****24 March 2020**

The primary purpose of amendment 2020/01 was to update GR No 15, GR No 17 and GR No 24 to align with the introduction of Part M Light (Part-ML) under Regulation (EU) 2019/1383, which became applicable on 24 March 2020.

In addition, the opportunity was taken to update some of Section 2, including various references to the EU Regulations and UK ANO Articles as applicable at the date of publication.

The main changes include:

- Text changes to the Foreword.
- Text changes to Section 1, Part 1.
- An update to the list of non-EASA products in Section 1, Part 2.
- The inclusion of CAA AD G-2018-0001 for Slingsby T61 in Section 2, Part 1.
- The minor update of Section 2, Part 2.
- The minor update of GR No 10 and GR No 25 in Section 2, Part 3.
- The update of GR No 15, GR No 17 and GR No 24 in Section 2, Part 3.
- The revision of GC No 6, including an updated Appendix 1 and 3, in Section 2, Part 4.
- The minor update of GC No 1 and GC No 7, in Section 2, Part 4.

**Issue 4****1 January 2021**

CAP 747 has been amended to reflect the fact that the UK has left the EU and the CAA is no longer a member of the European Union Aviation Safety Agency (EASA). As a result, the CAA has taken on State of Design responsibilities from EASA for products where the UK is State of Design. The CAA is now responsible for fulfilling the UK's obligations as State of Design or Manufacture as specified in Annex 8 of the ICAO Convention on International Civil Aviation.

Section 1, Part 1 provides new flowcharts to assist in identifying the applicable mandatory requirements for airworthiness relating to your product.

The main changes include:

- Text changes to the Foreword.
- Text changes and new flowcharts in Section 1, Part 1.
- A new Section 1, Part 3 - Lists of Part 21 Aircraft Types on the G-Register with a Specific Airworthiness Specification (SAS) originally issued by EASA.
- A new Section 1, Part 4 - Lists of Part 21 Products Where the UK is the State of Design.
- A new Section 2, Part 2, to contain State of Design Airworthiness Directives not adopted by the CAA (from 01/01/2021).

A review of the Generic Requirements and Generic Concessions, in Section 2, will be undertaken in due course and they will be updated as required to reflect the fact that the UK has left the EU.

**Issue 4, amdt 2021/01****June 2021**

CAP 747 has been amended to:

- Update paragraphs 1 and 13.1 of the Foreword.
- Provide minor updates to the flowcharts in Section 1, Part 1 to increase clarity.
- Insert the following UK CAA ADs in Section 2, Part 1.
  - G-2021-0001 R1 Boeing 737-8 MAX and -9 MAX
  - G-2021-0002 R1 Piper PA-28 and PA-32
  - G-2021-0003 Survitec Group Limited - Halo Passenger Lifejacket Emergency Breathing System (EBS)
  - G-2021-0004 Survitec Group Limited - Life Raft Heliraft 18R MK3
- Add the Decision not to Adopt FAA AD 2020-26-16 in Section 2, Part 2.
- Correct some minor typographical errors.

# Section 1 General Information

## Part 1 Introduction and Guide to Use

### 1 Classification of aircraft as “Part 21 Aircraft” and “Non-Part 21 Aircraft”

1.1 “Part 21 aircraft” are those aircraft that are included in the scope of Regulation (EU) 2018/1139.

“Non-Part 21 aircraft” are aircraft that fall within the categories set out in Article 2, paragraph 3(a) and Annex I of Regulation (EU) 2018/1139. Non-Part 21 aircraft are not subject to regulation of airworthiness by EASA, but are subject to national regulations.

1.2 All Part 21 products with a Type Certificate (TC) either issued or accepted by EASA, or a Specific Airworthiness Specification issued by EASA, are listed on the EASA website at the following website addresses:

<https://www.easa.europa.eu/document-library/product-certification/type-certificates/easa-product-lists>

<https://www.easa.europa.eu/document-library/specific-airworthiness-specifications>

From 1 January 2021, for all Part 21 products, the acceptance of the TC is through the aviation safety arrangements (such as bilateral agreements and working arrangements) with the appropriate NAA of the State. Where no arrangement is in place, contact the CAA for further information.

Part 21 aircraft types, on the G-Register, with a Specific Airworthiness Specification (SAS) originally issued by EASA [Ref: 21.A.173(b)(2)] are listed in Section 1 Part 3. From 1 January 2021, the EASA SAS will continue to be valid in the UK under the Savings and Transitional Arrangements of The Aviation Safety (Amendment etc) (EU Exit) Regulations 2019, and their airworthiness certificates continue to be in force. On this basis, aircraft on the G-register with a SAS originally issued by EASA should continue to follow the applicable Airworthiness Directives as listed in the SAS and on the EASA Safety Publications Tool at: <https://ad.easa.europa.eu/>. In addition, check CAP 747 Section 2, Part 1 for any applicable Airworthiness Directives issued by the CAA and also the CAA website for any Airworthiness Directives issued by the CAA that are not yet incorporated in CAP 747 Section 2, Part 1. See Figure 3.

1.3 Annex I of Regulation (EU) 2018/1139 defines various categories of aircraft where the regulations do not apply and therefore are designated as “non-Part 21 aircraft”. These categories include homebuilts, microlights, gyroplanes and foot-launched gliders. Additional categories in Annex I are historic aircraft (or aircraft having historical relevance), research aircraft and ex-military aircraft. The list of aircraft given in Section 1, Part 2 of this CAP 747 shows aircraft types on the UK register in these last three categories and which have therefore been designated as “non-Part 21 aircraft”. The list also includes aircraft notified by EASA as “not transferred” and which remain subject to regulation under National Procedures.

NOTE: This CAP 747 also contains UK additional mandatory requirements for Part 21 aircraft types on the UK register.

1.4 Individual aircraft engaged in certain State or public services are subject to national airworthiness regulations, even if other aircraft of the same type (that are not engaged in such activities) are subject to regulation as a Part 21 aircraft (reference Article 2 of Regulation (EU) 2018/1139). These individual aircraft are not identified in CAP 747 because their status may change depending upon the purpose of a particular flight. For further guidance see CAP 562 (CAAIP) Leaflet B-60.

## 2 Guide to identifying the Applicable Requirements

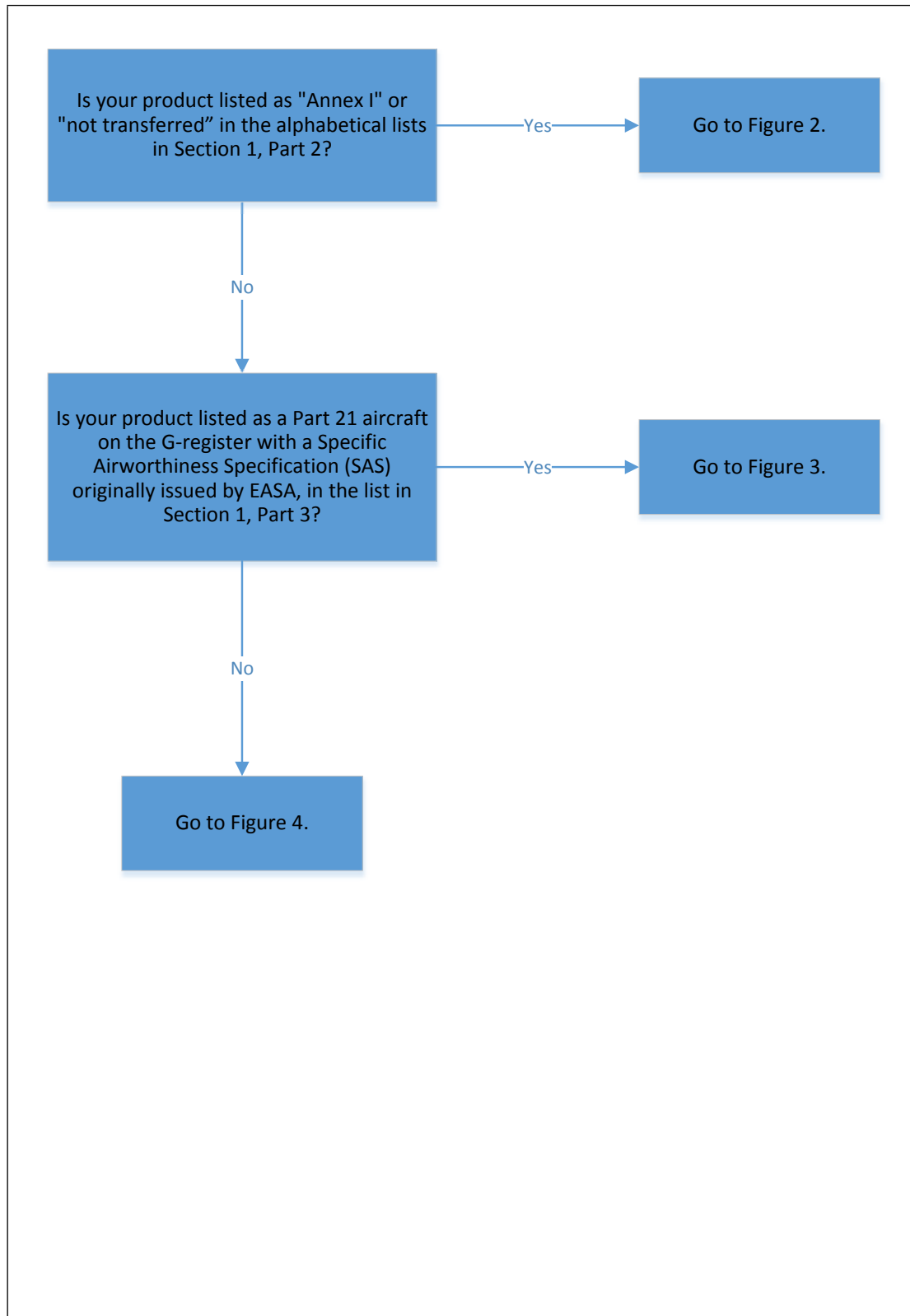


Figure 1 How to determine the applicable requirements for your product

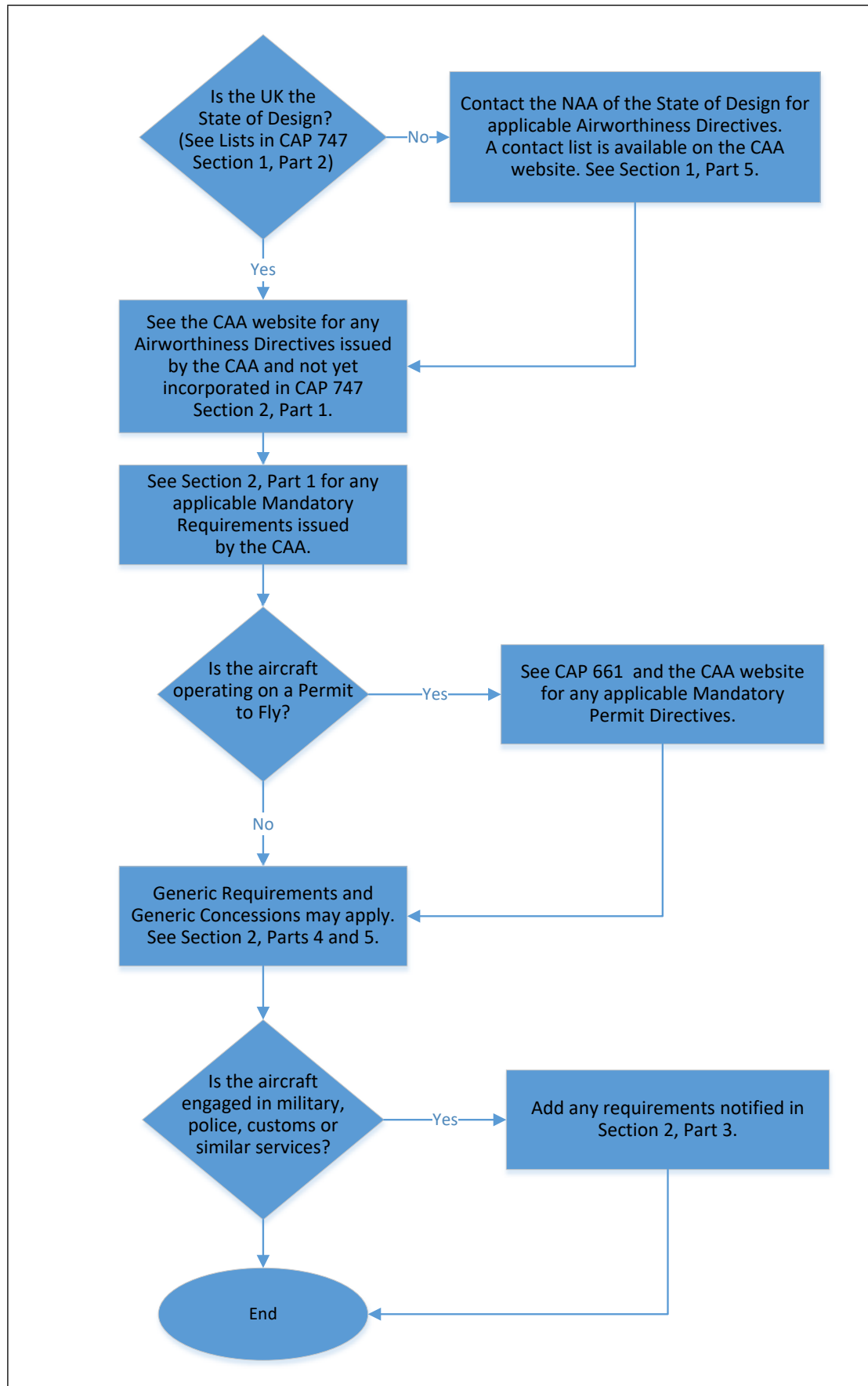


Figure 2 How to locate mandatory requirements for a non-Part 21 product

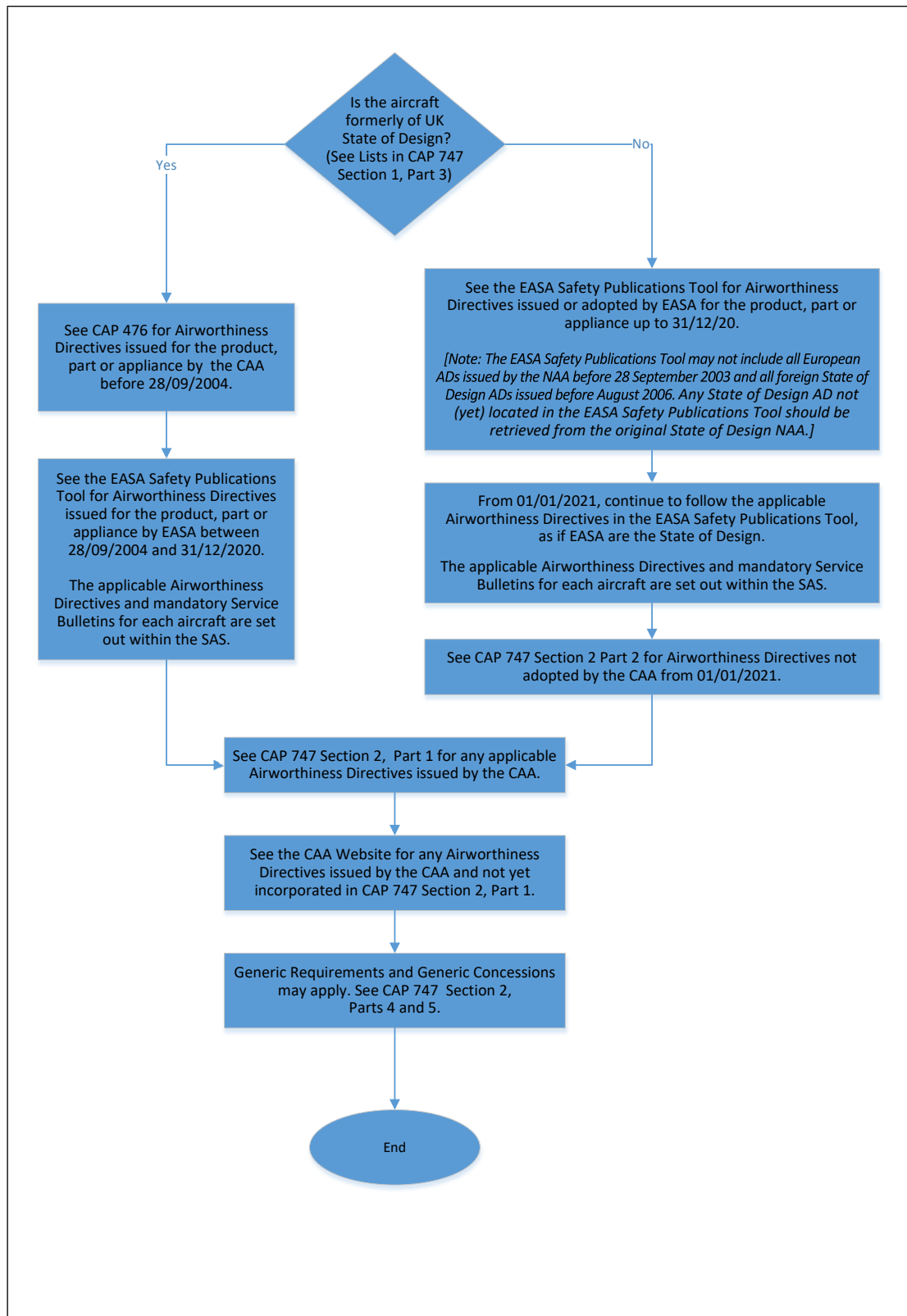


Figure 3 How to locate mandatory requirements for a Part 21 Aircraft on the G-register with a Specific Airworthiness Specification (SAS) originally issued by EASA

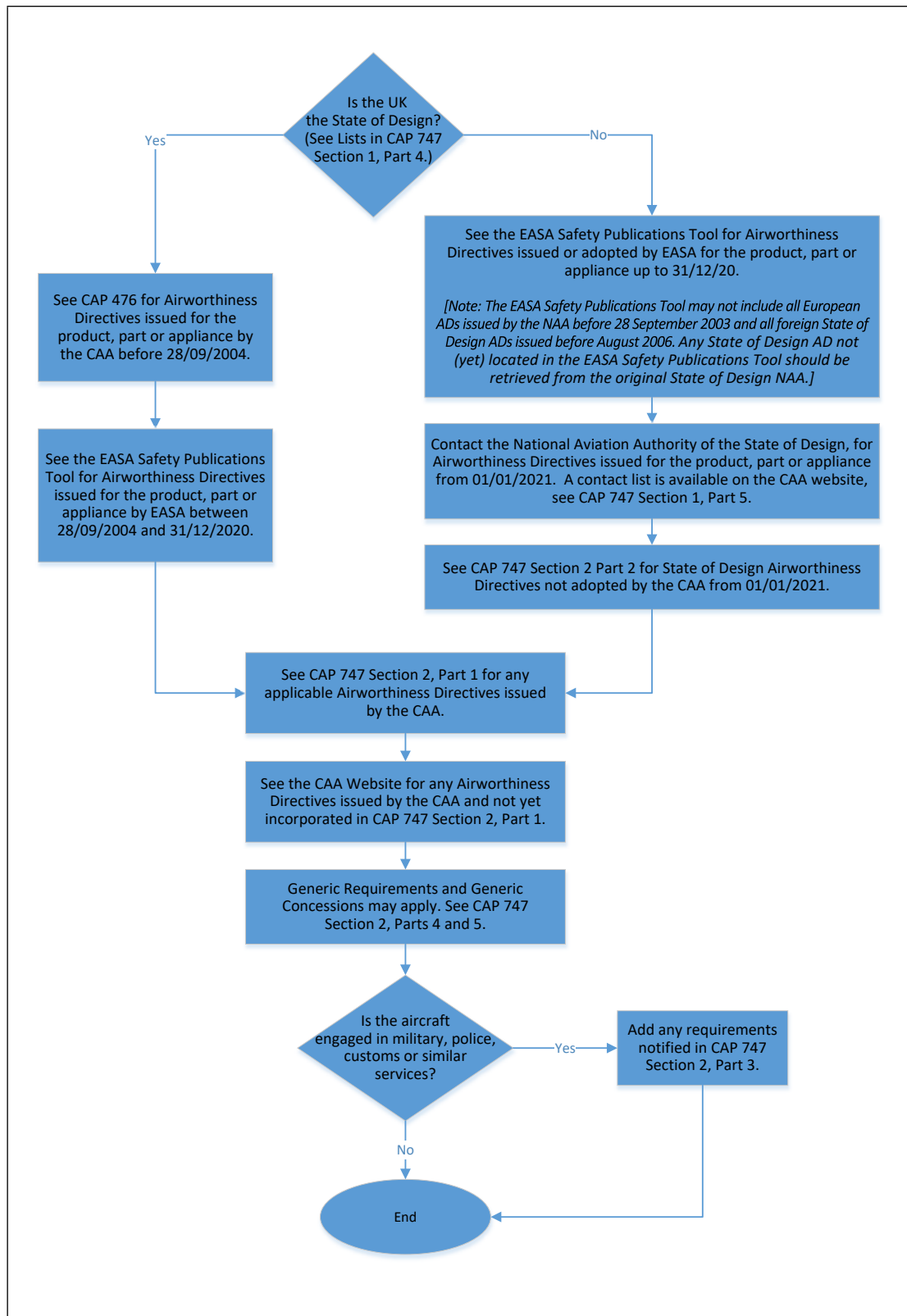


Figure 4 How to locate mandatory requirements for a Part 21 product

### **3 Applicability of Mandatory Requirements to engines, propellers, parts and appliances installed in “Part 21 Aircraft” and “Non-Part 21 Aircraft” with a Certificate of Airworthiness (CofA)**

- 3.1 Where a State of Design Airworthiness Directive is in force for any engine, propeller, part or appliance, it shall be complied with regardless of whether the engine, propeller, part or appliance is installed in a Part 21 aircraft or a non-Part 21 aircraft, unless the CAA notifies otherwise.
- 3.2 A product, part or appliance installed in a non-Part 21 aircraft shall comply with the mandatory requirements for non-Part 21 aircraft that are applicable to the product, part or appliance.
- 3.3 Where a product, part or appliance is installed in a non-Part 21 aircraft and there is a conflict between State of Design Airworthiness Directives and CAA Airworthiness Directives or mandatory requirements applicable to the product, part or appliance, the advice of the CAA shall be obtained.
- 3.4 Where a product, part or appliance is transferred from one aircraft to another, the installer shall ensure that the mandatory requirements applicable to the receiving aircraft are complied with.

### **4 Applicability of Mandatory Requirements to engines, propellers, parts and appliances installed in aircraft with a UK National Permit to Fly**

- 4.1 A product, part or appliance installed in an aircraft with a National Permit to Fly shall comply with the Mandatory Permit Directives published by the CAA.
- 4.2 Where a State of Design Airworthiness Directive is in force for any engine, propeller, part or appliance used on a Permit to Fly aircraft, it shall be complied with, unless CAA notifies otherwise.



## Part 2 Lists of Non-Part 21 Products, their Classification, and States of Design

NOTE: In the following Tables the abbreviations "N" and "A" are used in the last column to signify:

- N Aircraft notified by EASA as 'not transferred' and which remain subject to regulation under National Procedures;
- A Aircraft classified as Annex I (non-Part 21) aircraft.

**Table 1.1** Large Aeroplanes

Manufacturer/ TC Holder	Product Name	TC number	State of Design	N/A
Aviation Traders	ATL 98 Carvair		UK	A
AVRO	Lancaster		UK	A
BAE Systems (Operations) Limited	Jetstream 3102 s/n 614		UK	A
Boeing (Including McDonnell Douglas/ Douglas)	B-17G		USA	A
Bristol	170		UK	A
British Aerospace	146-301 ARA		UK	A
Consolidated	PBY-5A 28-5ACF Catalina		USA	A
Douglas	DC-3C-R-1830-90C DC-6 Series		USA USA	A A
English Electric	Canberra Series		UK	A
Ilyushin	IL-18 IL-62		Russia	N N
PZL	AN-28		Poland	N
Tupolev	TU-134M TU-154B2		Russia	N N
Yakovlev	YAK-42D		Russia	N

**Table 1.2** Light / Commuter / Very Light Aeroplanes

Aero	145		Czech Republic	A
	C104			A
	L-29 Delfin			A
	L-39 Albatros Series			A
	L-159 Albatros Series			A
Aeronca	11	A-761/A-796	USA	A
	65 Series	A-728		A
	100	A-396		A
	C3	A-396		A
	K	A-676/688		A
	O-58B	A-751		A

**Table 1.2** Light / Commuter / Very Light Aeroplanes (Continued)

<b>Manufacturer/ TC Holder</b>	<b>Product Name</b>	<b>TC number</b>	<b>State of Design</b>	<b>N/A</b>
Aeronca/American Champion/Bellanca/ Champion	7AC	A-759	USA	A
	7ACA	A-759		A
	7BCM	A-759		A
	7ECA with Continental O-200-A/ McCauley Prop.	A-759		A
	7ECA with Lycoming O-235-C1/ McCauley Prop.	A-759		A
	7ECA with Lycoming O-235-C1/ Sensenich Prop.	A-759		A
	7ECA with Lycoming O-235- K2C/Sensenich Prop. (pre 1981)	A-759		A
	7FC	A-759		A
	7GCAA with Lycoming O-320- A2B/McCauley Prop.	A-759		A
	7GCAA with Lycoming O-320- A2B/Sensenich Prop.	A-759		A
	7GCBC with Lycoming O-320- A2B/McCauley Prop.	A-759		A
7GCBC with Lycoming O-320- A2B/Sensenich Prop.	A-759	A		
7KCAB	A-759	A		
AESL	Airtourer 115 (modified)		New Zealand	A
Albatros	D.Va-1 Replica		Germany	A
Alon	A-2		USA	A
ANEC	II		UK	A
Antonov	An-2		Russia	A
Arrow	Active II		UK	A
ARV Aviation Ltd	ARV1 ARV1 Super 2		UK	A
Auster	All Series		UK	A
Avia	FL3		Italy	A
Aviamilano/Aeromere	Falco F8L		Italy	A
Avro	504K		UK	A
	643 Cadet Series			A
	652A Anson T21			A
	Avian Series			A
	C19 Series 2			A
	Triplane Replica			A
	Tutor			A
BA	Eagle 2		UK	A

**Table 1.2** Light / Commuter / Very Light Aeroplanes (Continued)

<b>Manufacturer/ TC Holder</b>	<b>Product Name</b>	<b>TC number</b>	<b>State of Design</b>	<b>N/A</b>
BA	Swallow 2		UK	A
BAC	167 Strikemaster Series		UK	A
BAC (1935) Ltd.	Drone		UK	A
Barfuss	Marabu		Switzerland	A
Beagle	A.61 Terrier Series A.109 Airedale B206 Series E3		UK	A A A A
Beagle Auster	D5 Series 180		UK	A
Beech	35, G35 D17S Expeditor Series	A-777	USA (A-777 Models) USA	A A A
Bell	P-39Q Airacobra P-63 Kingcobra	TC-21	USA	A A
Bellanca	Model 14 Series	A-773	USA	A
Binder-Aviatick GmbH	CP 301 Smaragd	564/SA	Germany	A
Blackburn	1912 Monoplane B.2 Series 1		UK	A A
Bleriot	XI		France	A
Boeing	75 Stearman Series	A-743	USA	A
Bristol	Bolingbroke MK.IV T Boxkite Replica Fighter F2B M1C Monoplane Replica		UK	A A A A
Bucker	BU131 Jungmann BU133 Jungmeister Series BU181 Bestmann (including Heliopolis Gomhouria MK6)	LBA 717/SA LBA 582/SA LBA 716/SA	Germany	A A A
Canadian Car & Foundry	Harvard Series	A-80	Canada	A
CASA	1-131E Series		Germany	A
Cessna	120 Series 140 Series C-165 170 Series 190/195 Series 305C	FAA A-768 FAA 5A2/A-768  FAA A-799 FAA A-790	USA	A A A A A A

**Table 1.2** Light / Commuter / Very Light Aeroplanes (Continued)

<b>Manufacturer/ TC Holder</b>	<b>Product Name</b>	<b>TC number</b>	<b>State of Design</b>	<b>N/A</b>
Chance-Vought	FG-1D Corsair		USA	A
Chilton	DW1 Series		UK	A
Chrislea	CH3 Super Ace Series 2		UK	A
Civilian	Coupe 02		UK	A
CMC	Leopard 001/002 Prototypes		UK	A
Commonwealth	CA 18 MK 22 (Mustang P-51D)		USA	A
Comper	CLA7 Swift		UK	A
	CLA7 Swift Replica			A
Crofton Auster	J1-A		UK	A
Culver	LCA Cadet		USA	A
Curtiss	C-2 Robin (Modified)		USA	A
	H-75A-1 Hawk			A
	P-36			A
	P-40 Series			A
	Travel Air 12Q			A
Dart	Kitten		UK	A
de Havilland	DH9		UK	A
	DH51			A
	DH53 Hummingbird			A
	DH60G	AAN 27543 Iss 2		A
	DH60M/GM/GMW	AAN 29290 Iss 1		A
	DH60GIII	AAN 28474 Iss 2		A
	DH60X	AAN 28787 Iss 2 (G-EBWD only)		A
	DH71 Tiger Moth			A
	DH80A Puss Moth	AAN 28870 Iss 1		A
	DH82A (Aust) Tiger Moth			A
	DH82A Tiger Moth	AAN 22556 Iss 9		A
	DH82B Queen Bee			A
	DH83 Fox Moth Series	AAN 24808 Iss 4		A
	DH84 Dragon	AAN 28148 Iss 1		A
	DH85 Leopard Moth	AAN 24160 Iss 3		A
DH87B Hornet Moth	AAN 27522 Iss 4	A		
DH88 Comet Racer		A		

**Table 1.2** Light / Commuter / Very Light Aeroplanes (Continued)

<b>Manufacturer/ TC Holder</b>	<b>Product Name</b>	<b>TC number</b>	<b>State of Design</b>	<b>N/A</b>
de Havilland contd.	DH89A Rapide Series	AAN 25002 Iss 2	UK	A
	DH90A Dragonfly	AAN 23636 Iss 1 (G-AEDU only)		A
	DH94 Moth Minor	AAN 29291 Iss 1	UK	A
	DH100 Vampire Series		UK	A
	DH104 Dove Series		UK	A
	DH110 Sea Vixen FAW MK2			A
	DH112 Venom Series			A
de Havilland Canada	DH114 Sea Heron C MK1	AAN 23020 Iss 2		A
	DH115 Vampire Series			A
	DHC-1 Chipmunk Mk21	AAN 1399 Iss 1	UK	A
	DHC-1 Chipmunk Mk22 + 22A	AAN 4383 Add4 Iss 6		A
de Havilland Canada (Viking Air)	DHC-1 Chipmunk Mk23	AAN 10239		A
	DHC-1A-1 Chipmunk	A-19	Canada	A
	DHC-2 Beaver 1	A-22		A
	DHC-3 Otter	A-27		A
Deperdussin	Monoplane		France	A
Desoutter	Monoplane		UK	A
Dornier	Do 27	LBA 514/SA	Germany	A
Douglas	Skyraider AD4-NA		USA	A
Druine/Rollason	D.31 Turbulent		UK	A
	D.62 Condor Series			A
EADS PZL	PZL-101 Gawron		Poland	A
	PZL-111 Koliber			A
Edgar Percival	EP9 Prospector		UK	A
English Electric	Wren		UK	A
Ercoupe	415 Series		USA	A
Extra Flugzeugbau GmbH	EA 230		Germany	A
Fairchild	24R-46A Argus Series		USA	A
	M62 Cornell			A
Fairey	Battle		UK	A
	Gannet Series			A
Federal Aircraft Factory	C3605 Schlepp		Switzerland	A

**Table 1.2** Light / Commuter / Very Light Aeroplanes (Continued)

<b>Manufacturer/ TC Holder</b>	<b>Product Name</b>	<b>TC number</b>	<b>State of Design</b>	<b>N/A</b>
Fiat	CR42 G46-3B		Italy	A A
Fieisler	F156 Series	LBA 725/SA	Germany	A
Fleet	Model 80 Canuck		Canada	A
Flugzeugbau W. Uetz	U3M Pelikan U4M Pelikan		Switzerland	A A
Focke-Wulf	FW189A-1 FW44J Steiglitz	LBA 726/SA	Germany	A A
Focke-Wulf/Flug + Werk	FW190 Series		Germany	A
Fokker	DR1 Replica		Germany	A
Fokker	S11-1		Netherlands	A
Folland	Gnat T MK 1		UK	A
Forney	F-1A		USA	A
Foster-Wikner	Wicko GM-1		UK	A
Fouga	CM.170 Magister		France	A
Garland-Bianchi/ Fairtravel	Linnet 1/2		UK	A
Globe	CG-1B Swift		USA	A
Glos-Air	Airtourer Series		New Zealand	A
Gloster	Gladiator Meteor NF11 Meteor T-7		UK	A A A
Gould-Taylorcraft	Plus D Special		USA	A
Great Lakes	2T-1A		USA	A
Grumman	F6F-3 Hellcat F7F-3 Tigercat F8F-2P Bearcat FM2 Wildcat TBM-3R Avenger	LTC-23	USA	A A A A A
Hawker	Audax Cygnet Replica Demon Fury Mk1 Fury/Sea Fury Series Hind		UK	A A A A A A

**Table 1.2** Light / Commuter / Very Light Aeroplanes (Continued)

<b>Manufacturer/ TC Holder</b>	<b>Product Name</b>	<b>TC number</b>	<b>State of Design</b>	<b>N/A</b>
Hawker contd.	Hunter Series			A
	Hurricane Series			A
	Nimrod Series			A
	Tempest II/V			A
	Tomtit			A
Helton	Lark 95		USA	A
Hindustan	HAL-26 Push Pak		India	A
Hispano	HA1112M1L		Spain	A
Hispano	HA1112M4L Buchon		Germany	A
Hunting	P84 Jet Provost Series		UK	A
Jodel	D14		France	A
	D112	TCDS 3		A
	D117			A
	D119	TCDS 21		A
	D120	TCDS 17		A
	D127	TCDS 3		A
	D128	TCDS 21		A
	D140	TCDS 20		A
	D150	TCDS 81/TC 27		A
	D1120	TC 23		A
	D1190	TC 23		A
	DR100	TCDS 34		A
	DR105	TCDS 34		A
	DR1050	TCDS 34/TC 6		A
DR1051	TCDS 34/TC 6	A		
Junkers	JU87/R4		Germany	A
Klemm	KI 35	LBA 710/SA	Germany	A
	L25-1A	LBA 573/SA		A
Lake Aircraft Corp	LA-4-180		USA	A
Latinoamericana de Aviacion (Lavia) SA (Lavia manufactured aircraft) Note: Piper manufactured PA-25 aircraft are eligible for an EASA C of A.	PA-25	AV-0004	Argentina	N
	PA-25-235			N
	PA-25-260			N
Lockheed	T-33 Silver Star 3		USA	A
Luscombe Aircraft Corp.	Luscombe 8 Series	A-694	USA	A
LVG	CVI		Germany	A

**Table 1.2** Light / Commuter / Very Light Aeroplanes (Continued)

<b>Manufacturer/ TC Holder</b>	<b>Product Name</b>	<b>TC number</b>	<b>State of Design</b>	<b>N/A</b>
Max Holste	MH1521 Series	TCS 47 & 57	France	A
Menavia/Piel/Scintex	CP 301 A/B Emeraude	TCDS 18/28	France	A
	CP 1310/1320/1330/Super Emeraude	TCDS 75		A
	CP 1315 Super Emeraude	TCDS 75		A
Messerschmitt	BF108	LBA 572/SA	Germany	A
	BF109 Series			A
Miles	M2L Hawk Six		UK	A
	M2W Hawk			A
	M3A Falcon			A
	M5 Sparrowhawk			A
	M11A Whitney Straight			A
	M14A Magister/Hawk Trainer 3			A
	M17 Monarch			A
	M28 Mercury			A
	M38 Messenger Series			A
	M65 Gemini 1A			A
Monocoupe	90A		USA	A
Morane Saulnier	MS.230		France	A
	MS.315E D2			A
	MS.317			A
	MS.505 Criquet			A
	MS.733 Alcyon			A
	MS.760			A
	N Replica			A
Nanchang	CJ-6A		China	A
NAS	Tiger Moth		UK	A
Naval Aircraft Factory	N3N-3	A-2-569	USA	A
Nieuport	Scout 17/23 Replica		France	A
Noorduyn	AT-16 Harvard IIB		Canada	A
Nord	1002	TCDS 45	France	A
	1101	TCS 89		A
	N3202-B1			A
	NC 854 S			A
	NC 856 Norvigie			A
	NC 858 S			A
Norman Aeroplane Co.	NAC-1/2 Series 180 Freelance		UK	A



**Table 1.2** Light / Commuter / Very Light Aeroplanes (Continued)

<b>Manufacturer/ TC Holder</b>	<b>Product Name</b>	<b>TC number</b>	<b>State of Design</b>	<b>N/A</b>	
Norman Aeroplane Co contd.	NDN-1 Firecracker			A	
	NDN-1 Turbo Firecracker			A	
North American	F86A Sabre	A-2-575	USA	A	
	P-51 Mustang Series			A	
	OV-10 Bronco			A	
	T-6 Harvard Texan Series			A	
	T28A Trojan			A	
Orlican Werke	L40 Meta Sokol		Czech Republic	A	
Parnall	ELF II		UK	A	
Partenavia/Vulcanair	P57 Fachiro II		Italy	A	
Percival	Mew Gull		UK	A	
	P10 Vega Gull			A	
	P40 Prentice 1			A	
	P56 Provost T1			A	
	P57 Sea Prince T1			A	
	P66 Pembroke C MK1			A	
	Proctor Series			A	
Piaggio Aero Industries	FW P149D		Italy	A	
Pilatus	P2 Series		Switzerland	A	
Piper Aircraft Corp	J2	FAATCDS A-698	USA	A	
	J3C			A	
	J3C (Modified)			A	
	J3C-65			A	
	J3C-65 (Modified)			A	
	J3C-90			A	
	J3F-50			A	
	Piper J3L Cub			A	
	J4A			A	
	J4E			A	
	J5A			1A2	A
	J5B			1A2	A
	L18C			1A2	A
	L21A (Modified)			1A2	A
	L21B			1A2	A
	L21B (Modified)			1A2	A
	L4H				A
	L4J				A
	PA-11			A-691	A

**Table 1.2** Light / Commuter / Very Light Aeroplanes (Continued)

<b>Manufacturer/ TC Holder</b>	<b>Product Name</b>	<b>TC number</b>	<b>State of Design</b>	<b>N/A</b>
Piper Aircraft Corp contd.	PA-12	A-780		A
	PA-14	A-797		A
	PA-15	A-800		A
	PA-16	1A1		A
	PA-17	A-805		A
	PA-18	1A2		A
	PA-19	1A2		A
	PA-20	1A4		A
	PA-22	1A6		A
	PA-23-160 Apache	1A10		A
Polikarpov	PO-2		Russia	A
Porterfield	CP50/65		USA	A
Putzer Elster	B	LBA 584/SA	Germany	A
Rearwin	175		USA	A
	8125 Cloudster			A
	8500			A
Reid and Sigrist	RS4 Desford		UK	A
Republic Aviation Corporation (Sky Enterprises Inc)	RC-3 Seabee	FAATCDS A-769	USA	A
Republic/Curtiss	P-47 Thunderbolt Series		USA	A
Robinson	Redwing		UK	A
Rollason	BETA		UK	A
Royal Aircraft Factory	SE5A		UK	A
	Be2 Series Replica			A
Ryan	PT-22		USA	A
	ST3KR			A
Saab	91D Safir		Sweden	A
Scottish Aviation	Bulldog Series		UK	A
	Twin Pioneer 3			A
Short Brothers	S312 Tucano T.Mk1		UK	A
SIPA	903	TCDS 8	France	A
	S91	TCS 7		A
SNCAN	Stampe SV4 Series	DGAC-FTCDS 6	Belgium	A
Soko	P-2 KRAGUJ		Yugoslavia	A
Sokol	M1C		Czech Republic	A
Somers Kendall	SK1		UK	A
Sopwith	1 1/2 Replica Strutter		UK	A
	7F.1 Snipe Replica			A

**Table 1.2** Light / Commuter / Very Light Aeroplanes (Continued)

<b>Manufacturer/ TC Holder</b>	<b>Product Name</b>	<b>TC number</b>	<b>State of Design</b>	<b>N/A</b>
Sopwith contd.	Camel Replica			A
	Dove			A
	Pup			A
	Triplane Replica			A
Southern	Martlet		UK	A
Spartan	Arrow		UK	A
SPP	Super Aero 45		Poland	A
Stinson	108		USA	A
	HW-75			A
Stinson contd.	L -1 Vigilant			A
	V-77 Reliant	A-774		A
Taylorcraft	65 Series		USA	A
	BC12D			A
	F-19 Series			A
	F-21 Series			A
Taylorcraft contd.	F-22 Series		USA	A
	Plus D			A
Thrupton	Jackaroo		UK	A
Topsy	Belfair		Belgium	A
	Nipper			A
	Trainer 1			A
Trago Mills Ltd	SAH-1		UK	A
UTVA	66		Yugoslavia	A
Vickers-Supermarine	Seafire Series		UK	A
	Spitfire Series			A
	Walrus MK1			A
Victa	Airtourer Series		Australia	A
Vought/Goodyear	F4U/FG-1D Corsair		USA	A
Waco	UPF-7		USA	A
	YKS-7			A
Wassmer/Issoire	WA 51		France	A
	WA 52			A
	WA 80	TC 51		A
	WA 81	TC 51		A
Westland	Lysander IIIA		UK	A
	Widgeon III			
Yakovlev	Yak-1		Russia	A
	Yak-3U			A

**Table 1.2** Light / Commuter / Very Light Aeroplanes (Continued)

<b>Manufacturer/ TC Holder</b>	<b>Product Name</b>	<b>TC number</b>	<b>State of Design</b>	<b>N/A</b>
Yakovlev contd.	Yak-9			A
	Yak-12			A
	Yak-18 (But NOT -18T)			A
	Yak-50			A
	Yak-52			A
	Yak C.11			A

**Table 1.3** Sailplanes/Powered Sailplanes

<b>Manufacturer/TC Holder</b>	<b>Product Name</b>	<b>TC number</b>	<b>State of Design</b>	<b>N/A</b>
Akaflieg Munchen	Mu 13		Germany	A
Alexander Schleicher GmbH	Rhönlerche II	LBA 164	Germany	A
Auto-Aero Budapest - Ungarn	R 26 SU "Göbè"		Hungary	N
Birmingham Guild	BG-135		UK	A
Breguet	900		France	A
	901-7			A
	904 Series			A
Carmam	M100		Italy	A
Carden/Abbott-Baynes	Scud Series		UK	A
Edgley	EA9 Optimist		UK	A
Elan Flight Ltd. Begunje - Slovenia	DG 303 Elan		Slovenia	N
Elliot's	Olympia Series		UK	A
ERI Aviation	PIK-16 Vasama		Finland	A
Ets Roche	AIR 100/102		France	A
Fabrika Aviona i Jadrilica 'Jastreb' Vr	ST CIRRUS G/81		Slovenia	N
Fauvel	AV22		France	A
	AV36/361			A
Focke Wulfe	Kranich Series	LBA 111	Germany	A
	Olympia Meise			A
	Weihe	LBA 68		A
Fournier Aerostructure	RF 8		France	A
	RF 10			A
Grunau	Baby Series		Germany	A
Heine Dittmar	Condor 4		Germany	A
Issoire Aviation	D77		Germany	A

**Table 1.3** Sailplanes / Powered Sailplanes (continued)

<b>Manufacturer/ TC Holder</b>	<b>Product Name</b>	<b>TC number</b>	<b>State of Design</b>	<b>N/A</b>
Issoire Aviation contd.	E75, 78, 78B			A
	WA 20			A
	WA 21			A
	WA 22, 22A			A
	WA 30			A
Loavia	LA		France	A
Lunak	LF-107		Czech Republic	A
Moswey-Werke	Moswey III	S-38-04	Switzerland	A
Neukom	Elfe PM3		Switzerland	A
	Elfe S-2			A
Oberlechner	Mg19 Series	SF15/92	Austria	A
Rolladen Schneider	Ls8-tpw		Germany	A
Scheibe	Rhonsperber		Germany	A
Schempp-Hirth Flugzeugbau GmbH	Go3 Mimimoa	LBA 59	Germany	A
	Hutter 17	LBA 67		A
Schleicher	Ka2 Series	LBA 140/203	Germany	A
	Ka3 Series	LBA 154		A
	Rhonbussard	LBA 50		A
Scott	Viking		UK	A
Shenstone	Harbinger		UK	A
Siren Bertin	C34		France	A
Slingsby	Kestrel 22		UK	A
	All models up to and including T50			A
	T59 Kestrel 19 S/no SSK/JP/054			A
	T.61			A
SNCAN	C800		France	A
Swales	SD3		UK	A
Voigt Alfred	Lo100		Germany	A
Zlin	24 KranjaneK		Czech Republic	A

**Table 1.4** Balloons

<b>Manufacturer/TC Holder</b>	<b>Product Name</b>	<b>TC number</b>	<b>State of Design</b>	<b>N/A</b>
Airtour	All Models		UK	A
Balóny Kubíček spol.s.r.o	AB 3		Czech Republic	N
	AV 2			N

**Table 1.4** Balloons (Continued)

<b>Manufacturer/ TC Holder</b>	<b>Product Name</b>	<b>TC number</b>	<b>State of Design</b>	<b>N/A</b>
Cameron Balloons	GB1000		UK	A
	S-31			A
	Thunder AX3 Sky Chariot			A
	V-20			A
Colt Balloons	Colt 56C		UK	A
Dragon Balloons	All Models		UK	A
Flying Pictures	Apoly1 44000		UK	A
Interavia	70TA		Russia	A
	80TA			A
Thunder Balloons	0-5		UK	A
	AX-3 Sky Chariot Series		UK	A
Ultramagic SA	Ultramagic V-14		Spain	A
Western Balloons	All Models		UK	A

**Table 1.5** Airships

<b>Manufacturer/ TC Holder</b>	<b>Product Name</b>	<b>TC number</b>	<b>State of Design</b>	<b>N/A</b>
Lindstrand Hot Air Balloons Ltd	LBL GT110		UK	A
Thunder Balloons	AS-33		UK	A

**Table 1.6** Rotorcraft

<b>Manufacturer/ TC Holder</b>	<b>Product Name</b>	<b>TC number</b>	<b>State of Design</b>	<b>N/A</b>
Agusta/Bell/Westland	47 Series		USA	A
Bristol	B.171 Sycamore		UK	A
Hiller Helicopters	UH 12 Series		USA	A
ICA Brasov	SA316B Alouette III		Romania	A
SARO	Skeeter 12		UK	A
Sud Aviation	SE313/3130 Alouette II		France	A
Westland	Gazelle AH.MK1		UK	A
	Gazelle HT.MK2			A
	Gazelle HT.MK3			A
	Scout AH1			A
	Wasp HAS1			A
	Wasp MK1B			A
	Whirlwind HAR MK.10			A
	WS.58 Wessex Series			A

### Part 3 Lists of Part 21 Aircraft Types on the G-Register with a Specific Airworthiness Specification (SAS) originally issued by EASA

NOTE: Aircraft issued with a SAS can only continue to be operated if they hold a Restricted Certificate of Airworthiness or a Permit to Fly, as referenced in the aircraft SAS document.

The tables below detail an aircraft manufacturer, where known, and/or the last Type Certificate Holder (TCH), as listed in the corresponding SAS document.

Unless indicated otherwise, the aircraft types below have no valid Type Certificate associated with them and therefore are orphaned.

**Table 1.1** Light / Commuter / Very Light Aeroplanes

Manufacturer/ Last TCH	Country of last TCH	Type	Model	EASA SAS Number
Advanced Aircraft Construction Technologies (TCDS 60-29) (Hungarian CAATC 38RK29) <sup>1</sup>	Russia	Sukhoi SU-29	Sukhoi SU-29	EASA.SAS.A.093
Beagle Aircraft Ltd / de Havilland Support Ltd	UK	Beagle 121 Pup	B121 Series 1 B121 Series 2 B121 Series 3	EASA.SAS.A.082
FLS Aerospace (Light Aircraft) Ltd (formerly Lovaux Ltd)	UK	FLS Sprint	Club Sprint Sprint 160	EASA.SAS.A.074
FLS Aerospace (Light Aircraft) Ltd (formerly Lovaux Ltd)	UK	OA7 Optica	OA7 Series 100 OA7 Series 200 OA7 Series 301	EASA.SAS.A.073
EADS Socata	France	Gardan GY80 Horizon	GY80-150 GY80-160 GY80-150D GY80-160D GY80-180	EASA.SAS.A.075
Slingsby Advanced Composites Ltd	UK	Slingsby T67 Firefly	T67A T67B T67C T67M T67M MKII T67M200 T67M260 T67M260-T3A	EASA.SAS.A.390
Société Alpvavia	France	Fournier RF	Fournier RF.6.B.100 Fournier RF.6.B.120	EASA.SAS.A.376

<sup>1</sup> In addition to holding the Russian Type Certificate for Su-29, the aircraft design was accepted by the Hungarian Civil Aviation Authority and issued with Type Certificate 38RK29. However, this TC is not recognised by EASA.

**Table 1.1** Light / Commuter / Very Light Aeroplanes (Continued)

<b>Manufacturer/ Last TCH</b>	<b>Country of last TCH</b>	<b>Type</b>	<b>Model</b>	<b>EASA SAS Number</b>
Wassmer Aviation	France	Wassmer WA 4	40 Super IV 40 A 40 B Super IV Sancy WA 41 Baladou WA 4/21 WA 4/21/250 Super 4/21	EASA.SAS.A.048
Yakovlev Design Bureau (responsible for technical issues and support) <sup>2</sup>	Russia	YAK-18T	YAK-18T	EASA.SAS.A.095

2 No valid Type Certificate exists in Europe since the Type Certificate granted by the Hungarian Civil Aviation Administration in September 1999 (No. 21RK18) is not considered as grandfathered.

**Table 1.2** Sailplanes/Powered Sailplanes

<b>Manufacturer/ Last TCH</b>	<b>Country of last TCH</b>	<b>Type</b>	<b>Model</b>	<b>EASA SAS Number</b>
Aviastroitel Ltd	Russia	Kenilworth Me7 Avia Stroitel AC-4c	Kenilworth Me7 Avia Stroitel AC-4c	EASA.SAS.A.099
Aviona i Jedrilica Jastrebov / Brauchle Segelflugzeugbau und Charter GmbH	Germany	Glasflügel 304 B	Glasflügel 304 B	EASA.SAS.A.098
Caproni Vizzola – Costruzioni Aeronautiche S.p.A.	Italy	Calif A-21	Calif A-21 Calif A-21S	EASA.SAS.A.118
Carmam S.A.	France	Carmam JP 15-36	JP 15-36 A JP 15-36 AR	EASA.SAS.A.005
Carmam S.A.	France	Carmam-Morelli M200	Carmam M200 S Carmam M200 Foehn	EASA.SAS.A.007
Centrair	France	Centrair 101 Pegase	Centrair 101 Pegase	EASA.SAS.A.100
Eiriavion Oy (formerly Molino Oy)	Finland	PIK-20	PIK-20 PIK-20B	EASA.SAS.A.023
Eiriavion Oy (formerly Molino Oy)	Finland	PIK-20D	PIK-20D	EASA.SAS.A.024
EIRI, Eino Riihelä Ky (former holder Eiriavion Oy (formerly Molino Oy))	Finland	PIK-20 E	PIK-20 E PIK-20 E II	EASA.SAS.A.085



**Table 1.2** Sailplanes / Powered Sailplanes (continued)

<b>Manufacturer/ Last TCH</b>	<b>Country of last TCH</b>	<b>Type</b>	<b>Model</b>	<b>EASA SAS Number</b>
Issoire Aviation	France	Wassmer 26 Squale	WA 26 P WA 26 CM	EASA.SAS.A.015
Issoire Aviation	France	Wassmer 28 Espadon	WA 28 WA 28 F WA 28 E WA 28 EF	EASA.SAS.A.016
Jastrebná Fabrika Aviona Jedrilica (formerly Vazduhoplovno Tehnicki Centar (VTC))	Serbia	Standard Cirrus 75 VTC Standard Cirrus G/81	Standard Cirrus 75 VTC Standard Cirrus G/81	EASA.SAS.A.097
SIREN	France	Siren PIK	PIK 20 E II F PIK 30	EASA.SAS.A.011
Schempp-Hirth	Germany	Discus	Discus B	EASA.SAS.A.101
Segelflugzeugbau A. Neukom	Switzerland	Neukom Elfe	Elfe S3 Elfe S4 Elfe S4A	EASA.SAS.A.041
Société Alpvavia	France	Fournier RF	Fournier RF 3 Fournier RF 4 Fournier RF 47	EASA.SAS.A.376
Slingsby Sailplanes Ltd	UK	Slingsby T51 Dart	Slingsby T51 Dart 15 Slingsby T51 Dart 17 Slingsby T51 Dart 17R	EASA.SAS.A.087
Slingsby Sailplanes Ltd	UK	Slingsby T53 Phoenix	Slingsby T53B	EASA.SAS.A.088
Slingsby Sailplanes Ltd	UK	Slingsby T59 Kestrel	Slingsby T59A Slingsby T59D Slingsby T59F	EASA.SAS.A.089
Yorkshire Sailplanes Ltd / Slingsby Sailplanes Ltd	UK	YS 53	YS 53 Sovereign	EASA.SAS.A.088

**Table 1.3** Airships

<b>Manufacturer/ Last TCH</b>	<b>Country of last TCH</b>	<b>Type</b>	<b>Model</b>	<b>EASA SAS Number</b>
Lindstrand Hot Air Balloons	All Models	HS-110	HS-110	EASA.SAS.AS.512

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## Part 4 Lists of Part 21 Products where the UK is the State of Design

NOTE: The tables below list products with a TC originally issued by EASA or UK CAA.

**Table 1.1** Large Aeroplanes

Manufacturer/TC Holder	Type	Model	TCDS Number
BAe Systems (Operations) Ltd	ATP BAe 146/Avro 146-RJ	ATP	EASA.A.192
		Avro 146-RJ100	EASA.A.182
		Avro 146-RJ115	EASA.A.182
		Avro 146-RJ70	EASA.A.182
		Avro 146-RJ85	EASA.A.182
		BAe 146 Series 100	EASA.A.182
		BAe 146 Series 200	EASA.A.182
		BAe 146 Series 300	EASA.A.182
	HS 748	HS 748 Series 1	EASA.A.397
		HS 748 Series 2	EASA.A.397
		HS 748 Series 2A	EASA.A.397
		HS 748 Series 2B	EASA.A.397
	Jetstream 4100 Series	Jetstream 4100 Series	EASA.A.189

**Table 1.2** Light/Commuter/Very Light Aeroplanes

Manufacturer/TC Holder	Type	Model	TCDS Number
BAe Systems (Operations) Ltd	Jetstream 3100/3200	Jetstream 3100 Series	EASA.A.191
		Jetstream 3200 Series	EASA.A.191
Britten-Norman Aircraft Ltd	BN2A Mark III Trislander	BN.2A Mark III	UK BA6
		BN.2A Mark III-1	UK BA6
		BN.2A Mark III-2	UK BA6
		BN.2A Mark III-3	UK BA6
	BN2 Islander Series Aircraft	BN2	AAN 9405.1
		BN2A	AAN 10101
		BN2A-10	AAN 11529
		BN2A-2	AAN 10918
		BN2A-20	EASA.A.388
		BN2A-21	EASA.A.388
		BN2A-23	AAN 12401
		BN2A-26	EASA.A.388
		BN2A-27	EASA.A.388
		BN2A-3	AAN 11105
		BN2A-6	AAN 11108
		BN2A-8	EASA.A.388
		BN2A-9	EASA.A.388
		BN2B-20	EASA.A.388
BN2B-21	EASA.A.388		

**Table 1.2** Light/Commuter/Very Light Aeroplanes (continued)

<b>Manufacturer/TC Holder</b>	<b>Type</b>	<b>Model</b>	<b>TCDS Number</b>
Britten-Norman Aircraft Ltd	BN2 Islander Series Aircraft	BN2B-26 BN2B-27 BN2T BN2T-2 BN2T-2R BN2T-4R BN2T-4S	EASA.A.388 EASA.A.388 EASA.A.388 UK BA8 UK BA8 EASA.A.388 EASA.A.388

**Table 1.3** Sailplanes / Powered Sailplanes

<b>Manufacturer/TC Holder</b>	<b>Type</b>	<b>Model</b>	<b>TCDS Number</b>
Slingsby Sailplanes Ltd	Slingsby T65 Vega	T.65 Vega	UK BG3

**Table 1.4** Balloons

<b>Manufacturer/TC Holder</b>	<b>Type</b>	<b>Model</b>	<b>TCDS Number</b>
Cameron Balloons Limited	Cameron GB	GB 1000	EASA.BA.521
	Cameron HAB	Cameron A Type	EASA.BA.013
		Cameron C Type	EASA.BA.013
		Cameron GP Type	EASA.BA.013
		Cameron H Type	EASA.BA.013
		Cameron N Type	EASA.BA.013
		Cameron O Type	EASA.BA.013
		Cameron "Sport" Type	EASA.BA.013
		Cameron TR Type	EASA.BA.013
		Cameron V Type	EASA.BA.013
		Cameron Z Type	EASA.BA.013
		Colt A Type	EASA.BA.013
		Colt "Bullet" Type	EASA.BA.013
		Thunder A Type	EASA.BA.013
		Thunder AX-Series S1	EASA.BA.013
		Thunder AX-Series S2	EASA.BA.013
		Thunder "Bolt" Type	EASA.BA.013
		Thunder Z Type	EASA.BA.013
	Cameron R Series RB	R-200	EASA.BA.028
		R-210	EASA.BA.028
		R-270	EASA.BA.028
		R-450	EASA.BA.028
		R-550	EASA.BA.028
		R-77	EASA.BA.028
		R-90	EASA.BA.028

**Table 1.4** Balloons (continued)

<b>Manufacturer/TC Holder</b>	<b>Type</b>	<b>Model</b>	<b>TCDS Number</b>
Cameron Balloons Limited	Cameron SSHAB	Special Shape Hot Air Balloons	EASA.BA.012
	TGB	TGB-1150	EASA.BA.523
	Lindstrand A Type HAB	A Type Series	EASA.BA.021
	Lindstrand B Type HAB	B Type Series	EASA.BA.502
	Lindstrand Cloudhopper HAB	A Type Cloudhopper Series	EASA.BA.501
	Lindstrand C Type HAB	C Type Series	EASA.BA.503
	Lindstrand L Type HAB	L Type Series	EASA.BA.504
	Lindstrand SSHAB	Special Shape Hot Air Balloons	EASA.BA.120
	Lindstrand S Type HAB	S Type Series	EASA.BA.505
	Lindstrand X Type HAB	Lindstrand X Type	EASA.BA.506
	Sky Hot Air Balloons	Sky-16 Series	EASA.BA.109
	Sky Hot Air Balloons	Sky-24 Series	EASA.BA.109
	Sky Hot Air Balloons	Sky-28 Series	EASA.BA.109
Lindstrand Technologies Ltd	203T HiFlyer	203T 9T	EASA.BA.005 EASA.BA.005
	Lindstrand Technologies HAB	Lindstrand Racer Series Lindstrand Series 1	EASA.BA.026 EASA.BA.026
	LTL Series Special	LTL Series Special	EASA.BA.030

**Table 1.5** Airships

<b>Manufacturer/TC Holder</b>	<b>Type</b>	<b>Model</b>	<b>TCDS Number</b>
Cameron Balloons Limited	AS	AS 105 GD	UK BAS7
		AS 105 MkII	UK BAS7
		AS 120 MkII	UK BAS7
		AS 80 GD	UK BAS7
		AS 80 MkII	UK BAS7
		AS 105 GD	EASA.AS.002 (transferred from GEFA Flug)
		Cameron D-Series HAA	D-Series
	DG-14	DG-14	UK BAS5

**Table 1.5** Airships (continued)

Manufacturer/TC Holder	Type	Model	TCDS Number
Cameron Balloons Limited	DP 'Skystar'	DP-50 DP-60 DP-70 DP-80 DP-90	UK BAS3 UK BAS3 UK BAS3 UK BAS3 UK BAS3

**Table 1.6** Rotorcraft

Manufacturer/TC Holder	Type	Model	TCDS Number
None			

**Table 1.7** Propellers

Manufacturer/TC Holder	Type	Model	TCDS Number	
GE Aviation Systems Ltd (trading as Dowty Propellers)	R175	R175/4-30-4/13E	UK Approval Letter	
	R184	R184/4-30-4/50	UK Approval Letter	
	R187	R187	UK Approval Letter	
	R193		R193/4-30-4/50	UK 104
			R193/4-30-4/50	UK 104
			R193/4-30-4/50	UK 104
			R193/4-30-4/50	UK 104
			R193/4-30-4/50	UK 104
	R209	R209/4-40-4.5/2	UK Approval Letter	
	R212 and R251		R212/4-30-4/22	UK 107
			R251/4-30-4/49	UK 107
	R306	R306/3-82-F/7	UK Approval Letter	
	R321	R321/4-82-F/7	UK Approval Letter	
	R324	R324/4-82-F/9	UK Approval Letter	
	R333	R333/4-82-F/12	UK 108	
	R334	R334/4-82-F/13	UK 115	
	R339 and R341		R339/4-123-F/8	UK 102
R341/4-123-F/9			UK 102	
R350	R350/4-123-F/12	UK 111		
R352		R352/6-123-F/1	UK 105	
		R352/6-123-F/2	UK 105	

**Table 1.7** Propellers (continued)

<b>Manufacturer/TC Holder</b>	<b>Type</b>	<b>Model</b>	<b>TCDS Number</b>
GE Aviation Systems Ltd (trading as Dowty Propellers)	R354	R354/4-123-F/13	UK 103
		R354/4-123-F/20	UK 103
	R375	R375/4-123-F/21	UK 109
	R381	R381/6-123-F/5	UK 114
	R389	R389/4-123-F/25	UK 112
		R389/4-123-F/26	UK 112
	R390	R390/4-123-F/27	UK 113
	R391 Series	R391/6-132-F/10	EASA.P087
		R391/6-132-F/3	EASA.P087
	R408 Series	R408/6-123-F/17	EASA.P002
		R408/6-123-F/20	EASA.P002
	R410	R410/6-123-F/35	UK 110
		R410/6-123-F/36	UK 110
R414	R414	UK Approval Letter	

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## **Part 5      Sources of Data**

This CAP 747 makes reference to data published by ICAO Member States, but does not republish that information. Owners/operators must obtain the data from the issuing organisation. To ensure continuous and timely receipt of mandatory Continuing Airworthiness Information it is necessary to subscribe to a service from the relevant State of Design. Links to foreign NAA websites are listed on the *Airworthiness Directives* webpage of the CAA website: <https://www.caa.co.uk/Commercial-industry/Aircraft/Airworthiness/Continuing-airworthiness/Airworthiness-Directives/>

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## Section 2 Mandatory Information

### Introduction

- 1 This Section of CAP 747 provides the airworthiness directives and mandatory information issued by the CAA for specific types of aircraft, engine, propeller and equipment; with the information presented in alphabetical order of each type. (Generic requirements that may apply to any number of products are provided in Section 2, Part 4).
- 2 Due to the details of the scope of European and UK legislation, mandatory requirements may be applied by the CAA under European regulations, national regulations or both, depending upon the particular circumstance. For each Airworthiness Directive or other mandatory requirement published in CAP 747, that relevant legislation is indicated by annotating the entry according to the following key:

#### Regulation Requirement

- (1) Requirement applied to Part 21 aircraft and notified under Article 70 of Regulation (EU) No. 2018/1139;
- (2) Applied to non-Part 21 aircraft under the UK Air Navigation Order;
- (3) Maintenance or Operations related requirements applied under the UK Air Navigation Order or Commission Regulation (EU) No. 1321/2014 Annex I (Part M).

**NOTE:** Only those Mandatory requirements that are currently applicable have been transferred from CAP 476 Mandatory Modifications and Inspections Summary (UK aircraft). Those items that were cancelled or superseded have not been included.

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## Section 2, Contents

- Key:
- (1) Requirement applied to Part 21 aircraft and notified under Article 70 of Regulation (EU) No. 2018/1139;
  - (2) Applied to non-Part 21 aircraft under the UK Air Navigation Order;
  - (3) Maintenance or Operations related requirements applied under the UK Air Navigation Order or Commission Regulation (EU) No. 1321/2014 Annex I (Part M).

### Part 1 **Airworthiness Directives and Mandatory Information Issued by the CAA Aircraft**

- (2) AESL, Glos Air Airtourer and Victa Airtourer Series and Airtourers Modified to AESL-T3 Standard
- (2) ARV Aviation ARV 1 Super 2 Aircraft
- (2) Auster 3, 4 and 5 Variants 'J' and 'D' Series and Taylorcraft Plus 'C' and 'D' Aircraft
- (2) Auster 6A and Beagle A.61 Series Aircraft
- (2) Aviation Traders ATL98 Carvair
- (2) Avro Anson and Avro 19
- (2) Beagle A.109 Aircraft
- (2) Beagle B.121 Series Aircraft
- (2) Beagle B.206 Series 1 and 2 Aircraft
- (1) Bell 206 Series Helicopters
- (1) Bell 212 Series Helicopters
- (1) Boeing 727 Series 100, 100C and 200
- (1) Boeing 737-200 and -200 Adv Series
- (1) Boeing 737-300, 400 and 500 Series
- (1) Boeing 737-300 Pemco Freighter/QC STC Conversion
- (1) Boeing 737-8 MAX and -9 MAX
- (1) Boeing 747 Series Aircraft
- (1) Boeing 757 Series Aircraft
- (1) Boeing 767 Series Aircraft
- (1) Boeing (Douglas) DC8 Series 50
- (1) Boeing (Douglas) DC8-63 and 63F
- (1) Boeing (McDonnell Douglas) DC-9 Series
- (1) Boeing (McDonnell Douglas) DC-10 Series
- (1) Boeing (Autair, Hawker Siddeley Canada Ltd) Harvard all variants
- (1) Bombardier (De Havilland Canada) DHC-7
- (1) Cessna Series Aircraft
- (2) De Havilland DHC-1 Chipmunk Series Aircraft
- (2) De Havilland DH60, DH80, DH82, DH83, DH85, DH87, DH94 and Queen Bee Series Aircraft
- (2) De Havilland DH89 Rapide Series Aircraft
- (2) De Havilland DH104 Dove Series Aircraft

- (2) DH 104 Riley Dove Series 1 and 2
- (2) De Havilland DH114 Heron Series Aircraft
- (1) Dornier Do.28 Series Aircraft
- (2) Douglas DC-3 and Dakota
- (2) Jodel Series Aircraft
- (1) Learjet 35A/36A
- (1) Lockheed L-188 Series Aircraft
- (2) Luscombe Series Aircraft
- (2) Miles M14a Hawk Trainer III (Magister)
- (2) Miles M38 Messenger
- (2) Miles M65 Gemini
- (2) Percival Prentice
- (2) Percival Proctor and Vega Gull
- (1) Piper PA-28 and PA-32
- (2) Rollason Druine Condor
- (1) Scheibe Series Motor Gliders
- (2) All Scottish Aviation Bulldog Aircraft
- (2) Scottish Aviation Bulldog Series 100 and 120 Aircraft
- (2) Scottish Aviation Twin Pioneer
- (1) Sikorsky S61 Series Helicopters
- (2) Slingsby T61
- (2) SNCAN Stampe et Renard and Aerospatiale Stampe SV4 Series Aircraft
- (2) Trago Mills SAH 1 Series Aircraft
- (2) Westland Bell 47 Series Helicopters

## **Engines**

- (2) Alvis Leonides Engines
- (2) Rolls Royce (Bristol Siddeley) Cheetah Engines
- (2) Rolls Royce (De Havilland) Cirrus Engines
- (2) Cirrus Minor II and IIA
- (2) Cirrus Major II and III
- (2) Cirrus Engine Inspections
- (2) Rolls Royce Continental Engines
- (2) Rolls Royce Gem Series Engines
- (2) Rolls Royce (De Havilland) Gipsy Engines
  - Gipsy Major 1 (All Series) and Major 10 Mark 1
  - Gipsy Queen 30 Series
  - Gipsy Queen 70 Series
  - Gipsy Engine Inspections
- (2) Rolls Royce Gnome Engines
- (2) Rolls Royce Tyne Engines
- (2) Rolls Royce Viper Engines

## Propellers

- (2) British Aerospace Dynamics Group
  - Britannia Propellers and Equipment
  - Heron Hydromatic Propellers and Equipment
  - Pembroke, Prince and President Propellers and Equipment
  - Pioneer (Twin and Single) Propellers and Equipment
  - Vanguard Propeller and Equipment
  - CL44 Propeller and Equipment
- (2) Dowty Aerospace Propellers
- (2) Fairey Reed Fixed Pitch Metal Propellers
- (2) Permal Group – Horden Richmond Wooden Fixed Pitch Propellers

## Equipment

- (2) Cameron Balloons Ltd – Fuel Cylinders with CB-0824-0001 Liquid Valve Fitted
- (2) Kidde Graviner Ltd – Automatic Fire Extinguishers
- (2) Lindstrand Hot Air Balloons – Replacement of Defective Fuel Hoses
- (2) Mann Aviation Group (Engineering) Ltd – Camera System Installation
- (3) Survitec Group Limited - Halo Passenger Lifejacket Emergency Breathing System (EBS)
- (3) Survitec Group Limited - Life Raft Heliraft 18R MK3
- (2) Installation of Helicopter Health and Usage Monitoring Systems
- (2) RAF Radio Equipment

### **Part 2 State of Design Airworthiness Directives not adopted by the CAA (from 01/01/2021)**

- (1) Decision not to Adopt FAA AD 2020-26-16: Piper PA-28 and PA-32 aeroplanes

### **Part 3 Requirements applicable to State/public service aircraft**

- (1) MD 900 (902 configuration)

### **Part 4 Generic Requirements**

- GR No. 4 Electrical Generation Systems – Aircraft Not Exceeding 5,700 kg Maximum Authorised Weight
- GR No. 6 Electrical Generation Systems – Bus-Bar Low Voltage Warning Single-Engined Aircraft With a UK Certificate of Airworthiness
- GR No. 8 Cotton, Linen and Synthetic Fabric-Covered Aircraft
- GR No. 9 Helicopter Emergency Escape Facilities
- GR No. 10 Painting of Aircraft
- GR No. 11 Maintenance of Cockpit and Cabin Combustion Heaters and their associated Exhaust Systems
- GR No. 15 Light Aircraft Maintenance Schedule (Non-EASA Aircraft – Annex I)
- GR No. 16 Tyre Bursts In Flight – Inflation Media

- GR No. 17 Maintenance Requirements for Variable Pitch Propellers Installed on Aircraft Holding a UK Certificate of Airworthiness
- GR No. 18 Electrical Power Supplies for Aircraft Radio Systems
- GR No. 19 Emergency Power Supply for Electrically Operated Gyroscopic Bank and Pitch Indicators (Artificial Horizons)
  
- GR No. 23 Personnel Certification for Non-Destructive Testing of Aircraft, Engines, Components and Materials
- GR No. 24 Light Aircraft Piston Engine Overhaul Periods
- GR No. 25 Aerobatic Smoke Systems

**Part 5      Generic Concessions (GCs)**

- GC No. 1 Airworthiness Concessions in Respect of Foreign Built Aircraft
- GC No. 6 Flight in UK Air Space of Foreign Registered Home-Built Aircraft
- GC No. 7 Use of Unleaded Aviation Gasoline (Avgas) UL 91 in Annex I Aircraft



# Part 1            **Airworthiness Directives and Mandatory Information Issued by the CAA**

## **Aircraft**

### **(2) AESL, Glos Air Airtourer and Victa Airtourer Series and Airtourers Modified to AESL-T3 Standard**

#### **1            CAA Additional Airworthiness Directives**

##### **1.1        002-08-2001**

###### **Description**

Inspection of tailplane support brackets for corrosion.

###### **Applicability – Compliance – Requirement**

Applicable to AESL Airtourer T3 aircraft, Victa Airtourer 100 and 115 aircraft and Glos-Airtourer 115, 150 and Super 150 aircraft.

Compliance is initially required not later than 10 flying hours or three months whichever is the sooner from the effective date of this Directive which is 24 August 2001. Clean and visually inspect the left and right tailplane support brackets for corrosion. Any corrosion detected must be removed and the area re-protected, in accordance with the AESL Airtourer 100, 115, 150, super 150 and T6 Maintenance and Repair Manual dated June 1970 chapter 50 'Repair Manual – General Repair Procedures', before further flight. If corrosion is blended out the depth must be recorded in the aircraft log book. Brackets with corrosion which exceeds the limits stated in chapter 50 paragraph 2 (c) of the Maintenance and Repair Manual, must be replaced with Part Nos. 20031/1 or 20031/2 or an alternative approved part. Repeat inspection of the tailplane support brackets must be carried out at intervals not exceeding 12 months.

##### **1.2        020-03-81**

###### **Description**

Inspection of upper and lower cut outs on control column torque tube assembly.

###### **Applicability – Compliance – Requirement**

**Applicable** to all Victa, Glos Air and AESL Airtourers.

**Inspect** in accordance with Glos Air Service Bulletin No. 15 within 25 flight hours from 30 April 1981. Repeat Inspection at intervals of 100 flight hours or 1 year whichever is the soonest.

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## (2) ARV Aviation ARV 1 Super 2 Aircraft

UK National Airworthiness Directives previously published in CAP 476 – Mandatory Aircraft Modifications and Inspections Summary

**CAA AD No:** 010-08-86

**Associated Material:** Maintenance Manual

**Description:** Mandatory Fatigue Lives

### **Applicability – Compliance – Requirement**

The fatigue lives listed in Chapter 4 of the Maintenance Manual are mandatory for aircraft on the United Kingdom Register.

**CAA AD No:** 025-05-87

**Associated Material:** ARV-SB-002

**Description:** Hewland AE75C Aero Engine – Loctiting carburetor bellmouth screws and wirelocking carburetor heat box retaining screws

### **Applicability – Compliance – Requirement**

Applicable to aircraft as detailed in Service Bulletin. Compliance required as detailed in Service Bulletin.

**CAA AD No:** 001-11-87

**Associated Material:** ARV-SB-008

**Description:** Hewland AE75C Engine – Propeller shaft

### **Applicability – Compliance – Requirement**

Applicable to all aircraft fitted with Hewland AE75C engine gearboxes. Compliance required as detailed in Service Bulletin.

**CAA AD No:** 015-11-87

**Associated Material:** ARV-SB-007

**Description:** Damage to rudder pedals

### **Applicability – Compliance – Requirement**

Applicable to aircraft up to and including Constructors No 024. Compliance required as detailed in Service Bulletin.

**CAA AD No:** 007-03-89

**Associated Material:** ARV-SB-012

**Description:** Cracks under the bearing sleeve on noseleg downtube

### **Applicability – Compliance – Requirement**

Applicable to aircraft Constructors Nos. 001, 004K, 005K, 006K, 007K, 009K, 011, 012, 013, 017, 019 and 021. Compliance required as detailed in Service Bulletin.

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## (2) Auster 3, 4 and 5 Variants 'J' and 'D' Series and Taylorcraft Plus 'C' and 'D' Aircraft

UK National Airworthiness Directives previously published in CAP 476 – Mandatory Aircraft Modifications and Inspections Summary

**CAA AD No:** 2463 PRE 80

**Associated Material:** Mod No. 135

**Description:** To introduce strengthened flap shaft levers and flap torque tube levers.

### **Applicability – Compliance – Requirement**

Applicable to Marks 4, 5, 5C and 5D aircraft.

**CAA AD No:** 2464 PRE 80

**Associated Material:** Mod No. 142

**Description:** To change the specification of rear undercarriage and lift strut fittings from 3S3 to DTD-124A.

### **Applicability – Compliance – Requirement**

Applicable to the first sixty-one Mark 3 aircraft only. Constructors Nos. 233–248 inclusive, 251–264 inclusive and 266–296 inclusive.

**CAA AD No:** 2465 PRE 80

**Associated Material:** Mod No. 144

**Description:** Introduction of 5/8" diameter rudder mass balance arm.

### **Applicability – Compliance – Requirement**

Applicable to Marks 3, 4, 5, 5C and Taylorcraft Plus Model 'C' and 'D' only. Mod. 159 (Introduction of rudder mass balance weight to Part No. J4252) is an alternative to this modification.

**CAA AD No:** 2466 PRE 80

**Associated Material:** Mod No. 154

**Description:** Introduction of wing fabric DTD 575, using specially woven tape of greater strength with 3" pitch stringing.

### **Applicability – Compliance – Requirement**

Applicable to Marks 3, 4, 5, 5C, 5D and Taylorcraft Plus Model 'C' and 'D' mainplanes only. Mod. 138 (Strengthened fabric attachments) and Mod. 167 (Fabric to DTD 540, superseded by BS 7F1) are alternatives. On all other variants, the modification is incorporated into the build standard, but if mainplanes and/or ailerons are to be re-covered, Mod 154 must be embodied in accordance with the relevant fabric covering drawings. (Use of DTD 540 fabric, now superseded by BS 7F1 is an alternative fabric to DTD 575). Beagle Service Bulletin No. 53 (Auster Series) and R F Saywell Ltd. Service Bulletin RFS/73/2 refer.

**CAAAD No:** 2467 PRE 80

**Associated Material:** Mod No. 164

**Description:** Introduction of redesigned engine mounting to Drawings Nos. DFF 18 Mark 3 and DFF 19 Mark 3.

**Applicability – Compliance – Requirement**

Applicable to Marks 4 and 5. Mod. 118 (Mountings to Drawings Nos. DFF 18 and 19 Mark 2) is an alternative to this modification.

**CAAAD No:** 2468 PRE 80

**Associated Material:** Mod No. 1381

**Description:** Introduction of redesigned engine mounting to Drawings Nos. DFF 18 Mark 3 and DFF 19 Mark 3.

**Applicability – Compliance – Requirement**

Applicable to Marks 4 and 5. Mod. 118 (Mountings to Drawings Nos. DFF 18 and 19 Mark 2) is an alternative to this modification.

**CAAAD No:** 2469 PRE 80

**Associated Material:** Mod No. 1670

**Description:** To introduce improved engine mounting to Drawing No. EJF 106 Issue 'K' by addition of wrapper plate at rear bearer foot attachment.

**Applicability – Compliance – Requirement**

Applicable to Mark 5J1

**CAAAD No:** 2470 PRE 80

**Associated Material:** Mod No. 1838

**Description:** Introduction of starter isolation switch.

**Applicability – Compliance – Requirement**

Applicable to all Auster aircraft with electric starter motors.

**CAAAD No:** 2471 PRE 80

**Associated Material:** Mod No. 2555

**Description:** To introduce safety tube in tailplane attachment tube.

**Applicability – Compliance – Requirement**

**CAAAD No:** 2472 PRE 80

**Associated Material:** Mod No. 2601

**Description:** To introduce throttle lever in mild steel.

**Applicability – Compliance – Requirement**

Applicable to Marks J5F, J5G and J5H.

**CAAAD No:** 2473 PRE 80

**Associated Material:** Mod No. 2737

**Description:** To introduce cap nut at engine fuel pipe banjo connection to facilitate locking.

**Applicability – Compliance – Requirement**

Applicable to all Auster 5J2 aircraft and to Auster Mark 4 and 5 fitted with Pesco type Vacuum Pumps and Electric Starters. Auster Service Bulletin Issue No. 36 refers.

**CAAAD No:** 2474 PRE 80

**Associated Material:** Mod Nos. 2898, 2899 and 2902

**Description:** Introduction of flexible mounted whip aerial.

**Applicability – Compliance – Requirement**

Only applicable to aircraft cleared for flight in icing conditions.

**CAAAD No:** 2475 PRE 80

**Associated Material:** Mod No. 3234

**Description:** Introduction of retaining pin for forward tailplane attachment safety tube.

**Applicability – Compliance – Requirement**

Auster Service Bulletin No. 41 refers.

**CAAAD No:** 2476 PRE 80

**Associated Material:** Mod No. 3285

**Description:** Radius on trimmer guide tubes.

**Applicability – Compliance – Requirement**

Applicable to Auster types 5J1, 5J1B, J1N, 5J2, 5J4, 5J5, J5B and J5P. Not applicable to aircraft fitted with belled mouth guide tubes at elevator trailing edge. Auster Service Bulletin No. 41 refers.

**CAAAD No:** 2477 PRE 80

**Associated Material:** Mod No. 3663

**Description:** Strengthened Actuator Lever Assemblies on Flap Control Torque Shaft.

**Applicability – Compliance – Requirement**

Should have been embodied by 1 April 1961. Applicable to Auster types Mark 4, 5, 5C, 5D, 5J1, 5J1B, J1N, J1U, 5J5, J5F, J5K, J5L, J5B, J5G, J5H, J5P, J5Q, J5R, J5V.

**CAA AD No:** 2478 PRE 80

**Associated Material:** Mod No. 4069

**Description:** Introduction of additional stringing.

**Applicability – Compliance – Requirement**

Applicable to Model C, Model D, Mark 3, 4, 5, 5C, 5D, 5J1, 5J1B, J1N, J1S, J1U, J2, J4, J5, J5B, J5F, J5G, J5H, J5K, J5L, J5P, J5Q, J5R, J5V, J8L, D4, D5, D6. This modification is applicable to all mainplanes of aircraft of the above types in which incorrect taping and/or stringing materials have been used during the last recovering of the components.

NOTE: This modification is an acceptable alternative to Auster Mod. 138 referred to in connection with Mod. 154. Beagle Service Bulletin No. 53 (Auster Series) and RF Saywells Ltd. Service Bulletin RFS/73/2 refer.

**CAA AD No:** 2479 PRE 80

**Associated Material:** Mod No. 4073

**Description:** Introduction of Cockpit Placard and Loading Chart.

**Applicability – Compliance – Requirement**

Applicable to mark 4, 5, 5C, 5D, J1, J1B, J1N, J1S, J1U, J5, J5B, J5F, J5G, J5H, J5K, J5L, J5P, J5Q, J5R, J5V, D5, D6. Beagle Service Bulletin No. 52 (Auster Series) refers.

**CAA AD No:** 2480 PRE 80

**Associated Material:** Mod No. 4179

**Description:** Replacement of toxic type fire extinguishers.

**Applicability – Compliance – Requirement**

Applicable to Model 'D' Mark 3, J1, J1N, J2, J4, D6/160, D6/180 and 6A. Should have been embodied by 30 September 1965.

**CAA AD No:** 2481 PRE 80

**Associated Material:** Mod No. A182

**Description:** Fuel and Oil Vent Restriction for AC lightweight diaphragm Fuel Pumps.

**Applicability – Compliance – Requirement**

Applicable to D5/160, D5/180, D6/160, D6/180, J1U and J5V. Compliance required by 1 September 1964. Beagle Service Bulletin (Auster Series) No. 55 refers.

**CAA AD No:** 2482 PRE 80

**Associated Material:** SB 32

**Description:** Inspection of the tailplane front attachments.

**Applicability – Compliance – Requirement**

Applicable to all variants except Taylorcraft Plus C and Auster J1U. Inspect for signs of fracture of the leading edge tube in the vicinity of the saddle washers at periods not exceeding 300 flight hours.

NOTE: This inspection is not necessary if the saddle washers are welded to the tube (instead of brazed) or if the aircraft has Modifications No. 3252 or 3413 embodied.



**CAA AD No:** 2483 PRE 80

**Associated Material:** SB 30

**Description:** Inspection of the tailplane attachment stubs.

**Applicability – Compliance – Requirement**

Applicable to all variants except Taylorcraft Plus C and Auster J1U. Inspect for signs of failure at periods not exceeding 100 flight hours (Auster J5F, J5L and J8L Aiglet Trainers) or 300 flight hours (Taylorcraft Plus D and all other variants other than J5F, J5L and J8L). This inspection need not be carried out if Modifications No. 3252 or 3413 together with 2555 and 3234 are embodied.

**CAA AD No:** 2484 PRE 80

**Associated Material:** -

**Description:** Life limitation of rudder control cables.

**Applicability – Compliance – Requirement**

Rudder cables Part Nos. JA 2393X and JA 2394X when installed over small (13/4") diameter pulleys at the change of direction some 12" rearward from the rudder bar must be renewed at periods not exceeding 200 flight hours. In all other cases cables Part Nos. JA 2393X and JA 2394X may remain in service up to a maximum of 1200 flight hours.

NOTE: Reference should be made to Auster Service Bulletin No. 50. The inspections of rudder cables detailed in this bulletin are mandatory.

**CAA AD No:** 2485 PRE 80 Revision 1

**Associated Material:** Beagle SB 54

**Description:** Inspection of the engine mounting attachment bolts.

**Applicability – Compliance – Requirement**

Applicable to Models as detailed in Service Bulletin. Compliance is required at intervals not exceeding 1000 flight hours. Inspect the engine mounting attachment bolts in accordance with the Service Bulletin.

NOTE: This AD revision removes the 5 year repeat requirement of the Service Bulletin.

**CAA AD No:** 2486 PRE 80

**Associated Material:** HS/Auster SB 1

**Description:** Propeller operating restriction placard.

**Applicability – Compliance – Requirement**

Applicable to aircraft fitted with Propeller Models 2D36C14-X/78KM, 2D34C53-X/74E and B2D34C53-X/7. Compliance required as detailed in Service Bulletin.

**CAAAD No:** 2487 PRE 80

**Associated Material:** -

**Description:** Rear seat loading limitations amendment.

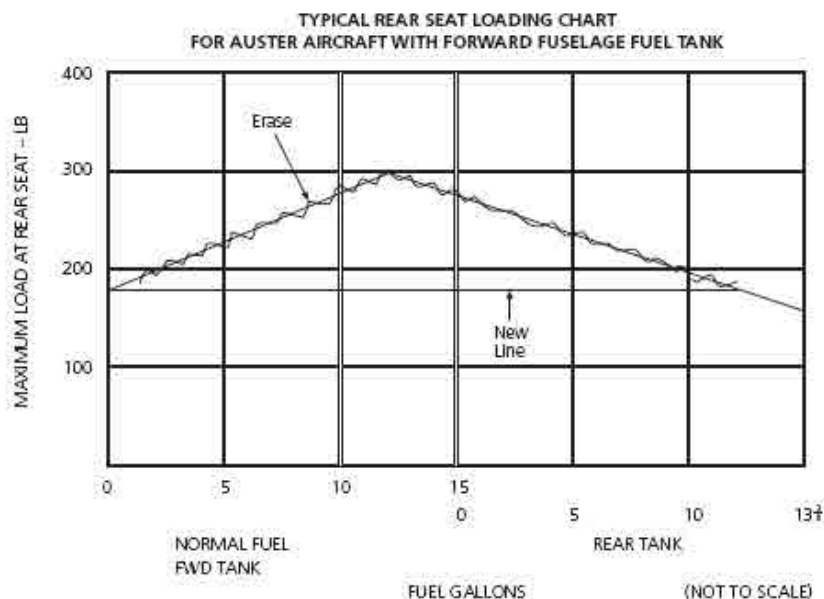
**Applicability – Compliance – Requirement**

Applicable to Auster Models Mk4, Mk5, Mk5C, Mk5D, J1, J1B, J1N, J1S, J5, J5B, J5F, J5G, J5H, J5K, J5L, J5P, J5Q, J5R, J5V, D5 and D6 which are fitted with a forward fuselage fuel tank. Compliance is required prior to the next flight on which it is intended to carry passengers on the rear bench seat, but in any case not later than 30 September 1976. Amend the loading limitation chart which is displayed in a plastic holder on the rear cabin bulkhead, as follows:

(1) Draw a line, parallel to the base line of the chart, from the rear seat load at zero fuel, i.e. the intersection of the loading limitation line with the left-hand vertical axis of the chart, and continue this horizontal line to intersect with the right-hand slope of the loading limitation line.

(2) Erase all that part of the original loading limitation line, which lies above the new line (drawn in accordance with 1).

NOTE: The following sketch illustrates an amended loading chart. If the existing loading chart should differ significantly from this illustration, advice must be obtained from the CAA prior to amendment. This Directive hereby authorises the Operator to make an entry in the aircraft Log Book, quoting the AD number, and this entry must be made when the loading chart has been amended in accordance with these instructions.



NOTE: This requirement was previously issued under CAA Letter Reference 9/92/LTO/1 dated 16 August 1976.

**CAAAD No:** 015-11-80

**Associated Material:** R F Saywell SB RFS/AUS/3

**Description:** Inspection of Bendix brake back plates.

**Applicability – Compliance – Requirement**

Applicable to all aircraft fitted with Bendix mechanical brakes. INSPECT in accordance with Service Bulletin at next 50 hour inspection and thereafter at each 100 flight hour or Annual Inspection whichever is the sooner.

## (2) Auster 6A and Beagle A.61 Series Aircraft

UK National Airworthiness Directives previously published in CAP 476 – Mandatory Aircraft Modifications and Inspections Summary

**CAA AD No:** 2488 PRE 80

**Associated Material:** -

**Description:** Inspection of the tailplane front attachments.

### **Applicability – Compliance – Requirement**

Inspect for signs of fracture of the leading edge tube in the vicinity of the saddle washers at periods not exceeding 300 flight hours.

NOTE: This inspection is not necessary if the saddle washers are welded to the tube (instead of brazed) or if the aircraft has Modification No. 3252 or 3413 embodied.

**CAA AD No:** 2489 PRE 80

**Associated Material:** -

**Description:** Inspection of the tailplane attachment stubs.

### **Applicability – Compliance – Requirement**

Inspect for signs of failure at periods not exceeding 300 flight hours. This inspection need not be carried out if Modification No. 3252 or 3413 together with 2555 and 3234 are embodied.

**CAA AD No:** 2490 PRE 80

**Associated Material:** -

**Description:** Life limitation of rudder control cables.

### **Applicability – Compliance – Requirement**

Rudder cables Part Nos. JA 2393X and JA 2394X when installed over small (13/4") diameter pulleys at the change of direction some 12" rearward from the rudder bar must be renewed at periods not exceeding 200 flight hours. In all other cases cables Part No. JA 2393X and JA 2349X may remain in service up to a maximum of 1200 flight hours.

NOTE: Reference should be made to Auster Service Bulletin No. 50. The inspection of rudder cables detailed in this bulletin are mandatory.

**CAA AD No:** 2491 PRE 80 Revision 1

**Associated Material:** Beagle SB Nos. A9 and 54

**Description:** Inspection of the engine mounting attachment bolts.

### **Applicability – Compliance – Requirement**

Applicable to Auster 6A and Beagle A.61 Series 1 and Revision 1 Nos. A9 and 54 attachment bolts. 2 aircraft. Compliance is required at intervals not exceeding 1000 flight hours. Inspect the engine mounting attachment bolts in accordance with the Service Bulletins.

NOTE: This AD revision removes the 5 year repeat requirement of the Service Bulletins.

**CAAAD No:** 2492 PRE 80

**Associated Material:** Beagle SB Nos. A14 and 58

**Description:** Replacement of toxic type fire extinguishers.

**Applicability – Compliance – Requirement**

Applicable to models as detailed in Service Bulletin. Should have been complied with by 30 September 1965.

**CAAAD No:** 015-11-80

**Associated Material:** R F Saywell Ltd SB No. RFS/AUS/3

**Description:** Inspection of Bendix brake back plates.

**Applicability – Compliance – Requirement**

Applicable to all aircraft fitted with Bendix mechanical brakes. INSPECT in accordance with Service Bulletin at next 50 hour inspection and thereafter at each 100 flight hour or Annual Inspection whichever is the sooner.

## (2) Aviation Traders ATL98 Carvair

UK National Airworthiness Directives previously published in CAP 476 – Mandatory Aircraft Modifications and Inspections Summary

**CAA AD No:** 2603 PRE 80

**Associated Material:** CSB/1

**Description:** Inspection of emergency air brake valve.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Compliance required as detailed in Carvair Service Bulletin.

**CAA AD No:** 2604 PRE 80

**Associated Material:** CSB/2

**Description:** Inspection of nose door upper pivot support structure.

**Applicability – Compliance – Requirement**

Applicable to aircraft S/N 10528/ATL 98/1, 10311/ATL 98/2, 18339/ATL 98/3, 10338/ATL 98/4, 10365/ATL 98/5, 7480/ATL 98/6, 10273/ATL 98/7. Compliance required at each Check 1 inspection until embodiment of Modification No. 98/5104.

**CAA AD No:** 2605 PRE 80

**Associated Material:** CSB/10

**Description:** Inspection of Bendix (Eclipse Pioneer) type 9054 fuel flow transmitters.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Compliance required at next Check 1 as referred to in Carvair Service Bulletin.

**CAA AD No:** 2606 PRE 80

**Associated Material:** CSB/13

**Description:** Strengthening of upper boom – Fin spar frame (Station X953).

**Applicability – Compliance – Requirement**

Applicable to aircraft detailed in Carvair Service Bulletin. Should have been embodied by 29 February 1964, Carvair Modification No. 98/5155 refers.

**CAA AD No:** 2607 PRE 80

**Associated Material:** CSB/20

**Description:** Operation of emergency brake system controls.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Compliance required as detailed in Carvair Service Bulletin. Modification 98/5258 refers.

**CAAAD No:** 2608 PRE 80

**Associated Material:** CSB/22

**Description:** Flying Controls – Replacement of bolt attaching aileron operating rod assembly to bell crank at wing station 485.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Compliance required as detailed in Carvair Service Bulletin. Modification 98/5301 refers.

**CAAAD No:** 2609 PRE 80

**Associated Material:** CSB/24

**Description:** Inspection of fin rear stub spar boom and fin rear shear saddle.

**Applicability – Compliance – Requirement**

Compliance required by 7 March 1974 and then at intervals of one year.

## (2) Avro Anson and Avro 19

UK National Airworthiness Directives previously published in CAP 476 – Mandatory Aircraft Modifications and Inspections Summary

**CAA AD No:** 1496 PRE 80

**Associated Material:** 108

**Description:** Tailplane wire bracing.

**Applicability – Compliance – Requirement**

Applicable to Anson Mark 1 only, with wooden tailplane.

**CAA AD No:** 1497 PRE 80

**Associated Material:** 121

**Description:** Guard for rudder bar torque tubes.

**Applicability – Compliance – Requirement**

To prevent loose items falling into the spur gears and locking the rudder control. Applicable to Anson Mark 1 only.

**CAA AD No:** 1498 PRE 80

**Associated Material:** 122

**Description:** Introduction of petrol trap in boost gauge lines.

**Applicability – Compliance – Requirement**

To prevent boost gauges being damaged by petrol. Applicable to Anson Mark 1 only.

**CAA AD No:** 1499 PRE 80

**Associated Material:** 173

**Description:** Strengthening of aileron hinge.

**Applicability – Compliance – Requirement**

This changes the end hinge from steel to brass. Applicable to Anson Mark 1 only.

**CAA AD No:** 1500 PRE 80

**Associated Material:** 265

**Description:** Pilot's Emergency Exit.

**Applicability – Compliance – Requirement**

To improve the 'rip-off' strip method of operating exits. Applicable to Anson Mark 1 only.

**CAA AD No:** 1501 PRE 80

**Associated Material:** 289

**Description:** Combined filter and non-return valve in flap hydraulic circuit.

**Applicability – Compliance – Requirement**

Introduced to prevent dirt reaching the pump relief valve. Applicable to hand operated flaps only on Anson Marks 1, 10 and 11.

**CAA AD No:** 1502 PRE 80

**Associated Material:** 308

**Description:** To reposition oil tank cock and thermometer pocket.

**Applicability – Compliance – Requirement**

Introduce brackets to support oil cock and thermometer pocket. Applicable to Anson Mark 1 only.

**CAA AD No:** 1503 PRE 80

**Associated Material:** 654

**Description:** Strengthened tailwheel rocker beam.

**Applicability – Compliance – Requirement**

Mandatory only for aircraft with AUW of 9540 lb. Applicable to Anson Marks 1, 10 and 11.

**CAA AD No:** 1504 PRE 80

**Associated Material:** 661

**Description:** Strengthened wing (retrospective).

**Applicability – Compliance – Requirement**

Introduces strengthened underside wing panels between spars (diagonal plywood). To be introduced in conjunction with Mod. No. 695. Applicable where Mod. No. 657 is not embodied. See Note 2. Applicable to Anson Marks 1, 10 and 11.

**CAA AD No:** 1505 PRE 80

**Associated Material:** 669

**Description:** To introduce engine fire warning.

**Applicability – Compliance – Requirement**

To be embodied in conjunction with Mod No. 844. Switches to Mod No. 855 are an approved alternative to those of Mod No. 669. Applicable to Avro 19 Series I and II.



**CAAAD No:** 1506 PRE 80

**Associated Material:** 687

**Description:** To introduce strengthened wheels, tyres and brakes.

**Applicability – Compliance – Requirement**

Applicable to Avro 19 Series I with wooden wing. Embodied in conjunction with Mod. No. 637 Heywood compressor.

**CAAAD No:** 1507 PRE 80

**Associated Material:** 695

**Description:** To strengthen the glued joints of mainplane spars.

**Applicability – Compliance – Requirement**

Introduces woodscrews in joints of plywood webs to top and bottom booms. To be embodied in conjunction with Mod. No. 661 when Mod. No. 657 is not incorporated. See Notes 1 and 2. Applicable to Anson Marks 1, 10 and 11.

**CAAAD No:** 1508 PRE 80

**Associated Material:** 709

**Description:** To strengthen rear seat attachment between spars.

**Applicability – Compliance – Requirement**

Applicable to wooden wing aircraft only. Introduces internal block and stiffeners in floor between spars. Applicable to Anson Mark 11 and Avro 19 Series I.

**CAAAD No:** 1509 PRE 80

**Associated Material:** 716

**Description:** General Improvements to drainage.

**Applicability – Compliance – Requirement**

Applicable to Anson Marks 1, 10 and 11 and Avro 19 Series 1 and II.

**CAAAD No:** 1510 PRE 80

**Associated Material:** 725

**Description:** To lower accumulators charging pressure from 200 lb/in<sup>2</sup> to 165–170 lb/in<sup>2</sup>.

**Applicability – Compliance – Requirement**

Mandatory to aircraft embodying Mod. No. 682 (direct flap linkage). Applicable to Avro 19 Series I only.

**CAAAD No:** 1511 PRE 80

**Associated Material:** 732

**Description:** Improvements to passenger seat locking.

**Applicability – Compliance – Requirement**

Applicable to all seats having spring loaded vertical locking plungers. Applicable to Anson Marks 1, 10 and 11.

**CAAAD No:** 1512 PRE 80

**Associated Material:** 744

**Description:** To change position of 'Press to Speak' switch.

**Applicability – Compliance – Requirement**

Changed from right to left. Applicable to Anson Mark 11 and Avro 19 Series I and II.

**CAAAD No:** 1513 PRE 80

**Associated Material:** 750

**Description:** To introduce wire locking of AGS couplings.

**Applicability – Compliance – Requirement**

Applicable to Anson Marks 1, 10, 11 and Avro 19 Series I and II

**CAAAD No:** 1514 PRE 80

**Associated Material:** 759

**Description:** To introduce strengthened oil cooler support clip.

**Applicability – Compliance – Requirement**

To be embodied in conjunction with Mod Nos. 825 and 899. Only applicable if Vickers Potts oil cooler is fitted. Applicable to Avro 19 Series I and II.

**CAAAD No:** 1515 PRE 80

**Associated Material:** 762

**Description:** Introduction of strengthened eye-bolts for main undercarriage.

**Applicability – Compliance – Requirement**

Eyebolt in torque increased from 3/8" to 7/16". Applicable to Avro 19 Series I and II.

**CAA AD No:** 1516 PRE 80

**Associated Material:** 773

**Description:** To cancel Mod. No. 733 (improvements to Heywood compressor drainage).

**Applicability – Compliance – Requirement**

This modification also makes provisions for Bristol Siddeley Engine Mod. Nos. E832 or E856 and is only mandatory if either of these engine modifications is embodied. Applicable to Avro 19 Series I and II.

**CAA AD No:** 1517 PRE 80

**Associated Material:** 775

**Description:** Improvements to safety device on undercarriage retraction control.

**Applicability – Compliance – Requirement**

Applicable to Avro 19 Series I and II.

**CAA AD No:** 1518 PRE 80

**Associated Material:** 777

**Description:** To eliminate compass interference.

**Applicability – Compliance – Requirement**

Mandatory only when wiper is fitted. Applicable to Avro 19 Series I and II.

**CAA AD No:** 1519 PRE 80

**Associated Material:** 782

**Description:** Marking of cowl fasteners to indicate locked position.

**Applicability – Compliance – Requirement**

Applicable to Avro 19 Series I and II.

**CAA AD No:** 1520 PRE 80

**Associated Material:** 795

**Description:** To prevent chafing of feathering feed pipe.

**Applicability – Compliance – Requirement**

Obviate chafing by wheel in nacelle. Applicable to Avro 19 Series I and II.

**CAA AD No:** 1521 PRE 80

**Associated Material:** 797

**Description:** To record correct main undercarriage pressure in main oleo leg.

**Applicability – Compliance – Requirement**

This calls for pressure of 620 lb/in<sup>2</sup> instead of 485 lb/in<sup>2</sup>. Applicable to Avro 19 Series I and II.

**CAAAD No:** 1522 PRE 80

**Associated Material:** 825

**Description:** To strengthen oil cooler support clip.

**Applicability – Compliance – Requirement**

To be embodied in conjunction with Mod. Nos. 759 and 899. Only applicable if Vickers Potts oil cooler is fitted. Applicable to Avro 19 Series I and II.

**CAAAD No:** 1523 PRE 80

**Associated Material:** 844

**Description:** Re-routing of flame switch cable on port and starboard bulkheads to prevent chafing.

**Applicability – Compliance – Requirement**

When embodied the flame switch cable is clipped to oil dilution valve attachment lug. Applicable to Avro 19 Series I and II.

**CAAAD No:** 1524 PRE 80

**Associated Material:** 873

**Description:** To change the material of the bolts securing the fork to the brake flange from mild steel to high tensile steel.

**Applicability – Compliance – Requirement**

Applicable only if Mod. No. 687 is embodied. Applicable to Avro 19 Series I and II.

**CAAAD No:** 1525 PRE 80

**Associated Material:** 899

**Description:** To introduce a new oil cooler support bracket.

**Applicability – Compliance – Requirement**

To be embodied in conjunction with Mod. Nos. 759 and 825. Applicable only if Vickers Potts oil cooler is fitted. Applicable to Avro 19 Series I and II.

**CAAAD No:** 1526 PRE 80

**Associated Material:** Civil Mod. 9

**Description:** To fit ashtrays.

**Applicability – Compliance – Requirement**

Mandatory when smoking is permitted. Mod No. 758 is an acceptable alternative. Applicable to Avro 19 Series I and II.

**CAAAD No:** 1527 PRE 80

**Associated Material:** Civil Mod. 32

**Description:** Labels to meet ARB Requirements.

**Applicability – Compliance – Requirement**

Applicable to Avro 19 Series I and II.

**CAAAD No:** 1528 PRE 80

**Associated Material:** Civil Mod. 33

**Description:** To prevent aileron cable chafing voltage regulator leads.

**Applicability – Compliance – Requirement**

Applicable to metal wing aircraft only. Mod. No. 774 is an acceptable alternative. Applicable to Avro 19 Series II only.

**CAAAD No:** 1529 PRE 80

**Associated Material:** Civil Mod. 49

**Description:** To introduce Marconi constant speed trailing aerial winch in lieu of AM type.

**Applicability – Compliance – Requirement**

Applicable to Avro 19 Series I and II.

**CAAAD No:** 1530 PRE 80

**Associated Material:** Civil Mod. 53

**Description:** To introduce re-designed forward cabin escape hatch and to delete rear cabin escape hatch.

**Applicability – Compliance – Requirement**

Applicable to Anson Mark 11 and Avro 19 Series I and II.

**CAAAD No:** 1531 PRE 80

**Associated Material:** Civil Mod. 56

**Description:** To introduce improved cabin escape hatch.

**Applicability – Compliance – Requirement**

Certain operators have already modified their aircraft to their own schemes. These alternatives are still approved and acceptable. Applicable to Anson Mark 1 and 10.

**CAAAD No:** 1532 PRE 80

**Associated Material:** T.S.B. No. 76, No. 80, No. 88

**Description:** Inspection of spar boom joints, etc.

**Applicability – Compliance – Requirement**

Compliance required as detailed in Service Bulletin.

**CAAAD No:** 1533 PRE 80

**Associated Material:** T.S.B. No. 84

**Description:** Inspection of Trailing Edge Ribs No. 20, Port and Starboard.

**Applicability – Compliance – Requirement**

Compliance required as detailed in Technical Service Bulletin.

**CAAAD No:** 1534 PRE 80

**Associated Material:** T.S.B. No. 85

**Description:** Cracking of Top Support Brackets for Undercarriage Jack Channels, centre section front spar.

**Applicability – Compliance – Requirement**

Compliance required as detailed in Technical Service Bulletin.

**CAAAD No:** 1535 PRE 80

**Associated Material:** T.S.B. No. 87

**Description:** Inspection of Aileron Operating Levers.

**Applicability – Compliance – Requirement**

Compliance required as detailed in Technical Service Bulletin.

**CAAAD No:** 1536 PRE 80

**Associated Material:** T.S.B. No. 89, No. 90

**Description:** Inspection of Main Undercarriage Radius Rod Attachment at Rear Spar.

**Applicability – Compliance – Requirement**

Should have been carried out by 1 September 1963. Re-inspection required at each 5 or 600 hours.

**CAAAD No:** 1537 PRE 80

**Associated Material:** T.S.B. No. 91

**Description:** Locking Handle, 2nd Pilot's Control Column Fouling at Floorboard Cut Out.

**Applicability – Compliance – Requirement**

Compliance required within the next 50 flying hours, and in any case not later than 28 days from receipt of this bulletin.

**CAAAD No:** 1538 PRE 80

**Associated Material:** T.S.B. No. 92

**Description:** Pilots' escape hatch – difficulty in removing.

**Applicability – Compliance – Requirement**

Compliance required as detailed in Technical Service Bulletin.

**CAAAD No:** 1539 PRE 80

NOTE 1: Mod. No. 657 embraces the design provisions of Mod. No. 695, but some wings to Mod. No. 657 standard do not incorporate the woodscrews referred to in the note against Mod. No. 695. It is essential that the woodscrews be fitted, and in cases where Mod. No. 657 is logged as embodied but no woodscrews are present, they must be fitted in accordance with Mod. No. 695. The presence of the woodscrews can be checked at any point on the spars.

NOTE 2: Certain Australian 'Anson' aircraft have been modified to RAAF Mod. No. 143 (Strengthening of spar booms) and RAAF Order No. 40 (Modification to wing covering under fuel tank base). These two modifications are acceptable in place of Mod. No. 661 and 695.

NOTE 3: If the aircraft is operated in the tropics, it may not be possible to keep within engine temperature limitations unless the following modifications are embodied.

Mod. No. 458 – Introduction of seven element oil cooler.

Mod. No. 621 – Introduction of Oxford Type cowling.

Bristol Siddeley Mod. No. E729 changes the cowling brackets to the cylinder head, and must be embodied in conjunction with Mod. No. 621.

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**(2) Beagle A.109 Aircraft**

UK National Airworthiness Directives previously published in CAP 476 – Mandatory Aircraft Modifications and Inspections Summary

CAA AD No: 2422 PRE 80

Associated Material: Mod A.105

Description: Introduction of cooling duct for starboard magneto.

Applicability – Compliance – Requirement

Should have been embodied by 1 January 1964. Beagle Service Bulletin No. A.5 refers.

CAA AD No: 2423 PRE 80

Associated Material: Mod A.118

Description: Introduction of increased strength door hinge bearings.

Applicability – Compliance – Requirement

Should have been embodied by 1 January 1964. Beagle Service Bulletin No. A.5 refers.

CAA AD No: 2424 PRE 80

Associated Material: Mod A.140

Description: Introduction of revised door catch.

Applicability – Compliance – Requirement

Should have been embodied by 1 March 1964. Beagle Service Bulletin No. A.5 and Supplement refer.

CAA AD No: 2425 PRE 80

Associated Material: Mod A.182

Description: Fuel and Oil vent restriction requirement for A.C. lightweight diaphragm fuel pumps.

Applicability – Compliance – Requirement

Should have been embodied by 1 September 1964. Beagle Service Bulletin No. A.10 refers.

CAA AD No: 2426 PRE 80

Associated Material: SB No. A14

Description: Replacement of toxic type fire extinguishers.

Applicability – Compliance – Requirement

Should have been embodied by 30 September 1965. Modification No. 4179 refers.

**(2) Beagle B.121 Series Aircraft**



**United Kingdom  
Civil Aviation Authority**

**AIRWORTHINESS  
DIRECTIVE**

**AD No: G-2005-0030**

Issue Date: 12 October 2005

This AD is issued by the UK CAA as the Primary Aviation Authority (ICAO Annex 8 Authority of State of Design) for the affected product(s).

In accordance with Article 9(7)(b) of the Air Navigation Order 2000 as amended the following action required by this Airworthiness Directive (AD) is mandatory for applicable aircraft registered in the United Kingdom.

No person may operate an aircraft to which an AD applies except in accordance with the requirements of that AD unless otherwise agreed with the Authority of the State of Registry.

Type Approval Holders Name:

Type/Model Designation(s):

**DE HAVILLAND SUPPORT LIMITED**

**BEAGLE B.121 (ALL VARIANTS)**

Type Certificate Data Sheet No: BA 1

Superseded/ Revised ADs: 2060 Pre 80

### **ATA 27 – RUDDER TORQUE TUBE ASSEMBLIES - INSPECTION**

**Manufacturer(s):** Beagle Aircraft Limited, Beagle Aircraft (1969) Limited.

**Applicability:** All Model Beagle B.121 series aeroplanes.

**Reason:** The Type Certificate Holder (TCH) has received several reports of failed Rudder torque tube assemblies. The torque tube assemblies are subject to repetitive inspection in accordance Airworthiness Directive 2060 PRE 80. The recent failures occurred in service after the inspections required by AD 2060 PRE 80 had been performed. In the event of such failures, loss of directional control through both the Rudder and Nosewheel Steering may occur. The TCH has also received reports of loose rivets attaching the inboard Anchor Assembly to the Starboard Torque Tube.

This Airworthiness Directive supersedes AD 2060 PRE 80 and mandates revised detailed repetitive inspection of the torque tube assemblies.

**Effective Date:** 31 October 2005

**Compliance/Action:** Within 100 hours Time In Service (TIS) since the last inspection performed in accordance with AD 2060 PRE 80 (Scottish Aviation Limited Service Bulletin B121/65 Issue 1), and thereafter at intervals not exceeding 100 hours TIS, inspect the Rudder Torque Tube Assemblies in accordance with de Havilland Support Ltd Service Bulletin B121/65, Issue 2 or later approved revision. Cracked Rudder Torque Tube Assemblies must be replaced before further flight.

From the effective date of this AD, used Rudder Torque Assemblies held as spares must be inspected in accordance with de Havilland Support Ltd Service Bulletin B121/65, Issue 2 or later approved revision prior to installation.

**Reference Publications:** de Havilland Support Limited Service Bulletin B121/65, Issue 2 may be obtained from de Havilland Support Limited, Building 213, Duxford Airfield, Cambridgeshire, CB2 4QR, England. Telephone: +44 (0) 1223 830090 Fax: +44 (0) 1223 830085 Email: info@dhsupport.com

**Remarks:** Enquiries regarding this Airworthiness Directive should be referred to Certification and Approvals Department, Civil Aviation Authority, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Telephone: +44 (0) 1293 573945 Fax: +44 (0) 1293 573976 E-mail: department.certification@srg.caa.co.uk

## (2) Beagle B.206 Series 1 and 2 Aircraft

UK National Airworthiness Directives previously published in CAP 476 – Mandatory Aircraft Modifications and Inspections Summary

CAA AD No: 2583 PRE 80

Associated Material: B206–1

Description: *Flight Controls*– Inspection of rudder mass balance horn and replacement of rudder incorporating Mod. 440.

Applicability – Compliance – Requirement

Applicable to Series 1 aircraft. Should have been embodied by 1 August 1966.

CAA AD No: 2584 PRE 80

Associated Material: B206–3

Description: *Propellers* – Inspection of end fitting at propeller governor and embodiment of Mod. 593.

Applicability – Compliance – Requirement

Applicable to Series 1 aircraft. Should have been embodied by 1 December 1966.

CAA AD No: 2585 PRE 80

Associated Material: B206–27

Description: *Landing Gear* – Inspection of main and nose undercarriage legs and embodiment of Mod. 887.

Applicability – Compliance – Requirement

Applicable to Series 1 and 2 aircraft. Compliance required within 200 flight hours.

CAA AD No: 2586 PRE 80

Associated Material: B206–28

Description: *Propellers* – Inspection of propeller attachments.

Applicability – Compliance – Requirement

Applicable to Series 2 aircraft fitted with McCauley propellers Part No. 3AF34C86/90LF–0. Compliance required within 25 flight hours.

CAA AD No: 2587 PRE 80

Associated Material: B206–31

Description: *Fuel* – Replacement of voltage limiting resistors in fuel boost pump circuit.

Applicability – Compliance – Requirement

Applicable to Series 2 aircraft incorporating Beagle Mod. 780. Compliance required within 50 flight hours.

CAA AD No: 2588 PRE 80  
Associated Material: B206-42  
Description: *Placards* – Replacement of electrical transfer switch label.  
Applicability – Compliance – Requirement  
Applicable to Series 1 and 2 aircraft. Should have been embodied by 31 January 1973.

CAA AD No: 2589 PRE 80  
Associated Material: B206-48  
Description: *Ice and Rain* – Lifing of aerofoil de-icing air reservoir.  
Applicability – Compliance – Requirement  
Applicable to Series 1 aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 2590 PRE 80  
Associated Material: B206-51  
Description: *Placards* – Installation of engine operating limitation placards.  
Applicability – Compliance – Requirement  
Applicable to Series 2 aircraft. Should have been embodied by 31 October 1974.

CAA AD No: 2591 PRE 80  
Associated Material: B206-52  
Description: *Propellers* – Improvement of propeller attachment.  
Applicability – Compliance – Requirement  
Applicable to Series 2 aircraft fitted with McCauley propellers as listed in McCauley Service Bulletin No. 102-1. Compliance required at next propeller overhaul or during any major disassembly of the propeller.

CAA AD No: 2592 PRE 80  
Associated Material: B206-54  
Description: Mandatory Life Limitations.  
Applicability – Compliance – Requirement  
The limitations listed in the Service Bulletin are mandatory for aircraft on the United Kingdom Register.

CAA AD No: 2593 PRE 80  
Associated Material: B206-55  
Description: *Exhaust* – Inspection of exhaust system bellow assemblies.  
Applicability – Compliance – Requirement  
Applicable to Series 2 aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 2594 PRE 80

Associated Material: CAA Airworthiness Notice No. 82. (Now CAP 747 Section 2, Part 3, GR No. 4)

Description: *Electrical Generation System* – Warning of loss of generated electrical power.

Applicability – Compliance – Requirement

Applicable to all Series aircraft. Compliance required as detailed in Airworthiness Notice.

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## (1) Bell 206 Series Helicopters

### 1 CAA Additional Airworthiness Directives

#### 1.1 001-02-2002

##### Description

Inspection of fuel boost pumps and internal fuel cell hoses for correct configuration.

##### Applicability – Compliance – Requirement

Applicable to Bell 206A and 206B helicopters equipped with fuel boost pumps Part No. 206-062-681, Bell 206A and 206B helicopters with Serial Nos. prior to 2212 and Bell 206A and 206B helicopters with Serial Nos. 2212 to 3566 which have not complied with Bell Technical Bulletin 206-82-75.

**Compliance** is required not later than 3 months from the effective date of this Directive, which is 1 March 2002. Bell 206A and 206B helicopters equipped with fuel boost pumps Part No. 206-062-681 must comply with Part I of this Directive. Bell 206A and 206B helicopters with Serial Nos. prior to 2212 and Bell 206A and 206B helicopters with Serial Nos. 2212 to 3566 which have not complied with Bell Technical Bulletin 206-82-75 must comply with Part II of this Directive.

##### Requirement:

Part I: Inspection of Fuel Boost Pump 206-062-681.

- a) From the logbook, determine the Part No. of fuel boost pump installed.
- b) If fuel boost pump 206-062-681 is installed, proceed with the next step c), otherwise if fuel boost pump has a different Part No. proceed with Part II of this Directive, if applicable.
- c) In accordance with the applicable Maintenance Manual paragraph 12, drain fuel system.
- d) In accordance with the applicable Maintenance Manual paragraph 28, remove the two fuel boost pumps. Inspect them for presence of fuel boost pump umbrella check valve Part No. E6-34-1, existing on the top of the body pump (Refer to figure 1 in Parker Aerospace Product Reference Memo Number: 50). If valve is missing, procure a new valve and install it in accordance with the Parker Aerospace Product Reference Memo Number: 50.

Part II: Inspection of Fuel System Tubes.

With reference to the applicable Illustrated Parts Breakdown Manual chapter 28 figure 28-2, inspect internal fuel cell hoses as follows:

- a) Verify internal fuel cell hoses for presence of anti-chafing covering.
- b) Verify presence of spacer clamp Part No. MS21919 as shown in figure 28-2 item 65 and 66 of applicable illustrated Parts Breakdown Manual.
- c) If required, replace internal fuel cell hoses and/or install spacer clamp.

Return helicopter to flight configuration.

**NOTE:** ENAC (the Italian Aviation Authority) have issued AD 2000-356 applicable to Agusta Bell AB206A, AB206B and AB206B III helicopters on this subject.

## (1) Bell 212 Series Helicopters

### 1 Additional Airworthiness Directives

#### 1.1 001-06-99

**Applicable** to Bell 212 helicopters Serial Nos. 30501 through 31311 and 35001 through 35102 fitted with servo actuator Part No. 212-076-004-All (HR Part No. 41000570) that has been repaired or overhauled.

**Compliance** is required prior to the issue of a UK Certificate of Airworthiness from the effective date of this Directive which is 5 July 1999.

**Inspect** the servo actuator for unauthorized actuating lever assemblies in accordance with Alert Service Bulletin 212-98-103. Failure of the servo actuator could cause loss of control and possible loss of the helicopter.



## **(1) Boeing 727 Series 100, 100C and 200**

### **1 Additional Requirements and Special Conditions**

#### **1.1 Comparator Warning Indicator**

Comparator warning indicators are required for the two main attitude indicators and the comparison is to be made at the instrument presentation. The independence of these systems shall not be violated by the comparator.

## **(1) Boeing 737-200 and -200 Adv Series**

### **1 Additional Requirements and Special Conditions**

#### **1.1 Comparator Warning Indicator**

Comparator warning indicators are required for the two main attitude indicators and the comparison is to be made at the instrument presentation. The independence of these systems shall not be violated by the comparator.

## **(1) Boeing 737-300, 400 and 500 Series**

### **1 Additional Requirements and Special Conditions**

#### **1.1 Attitude Comparator (EFIS Equipped Aircraft)**

The optional attitude comparator and an acceptable associated warning are required for compliance with BCAR Chapter D6-10. The comparator warning must be provided with positive attention getting qualities (e.g. flashing).

## (1) Boeing 737-300 Pemco Freighter/QC STC Conversion

### 1 Additional Requirements and Special Conditions

For Aircraft converted with the PEMCO main deck cargo door approved in FAA STC SA2969SO using PEMCO document MDL 2373 rev G or earlier, the following additional requirements apply.

#### 1.1 Structures

- 1.1.1 Compliance to CS 25.307, proof of strength, must be shown for the new modified and affected structure of the fuselage and door.
- 1.1.2 Compliance to CS 25.519, jacking, must be shown by the provision of adequate instructions for the maintenance manual.
- 1.1.3 Compliance to CS 25.571, damage tolerance, must be shown for the new, modified and affected structure of the fuselage and door.
- 1.1.4 Compliance to CS 25.605, fabrication methods, must be shown by the provision of adequate instructions for maintenance and inspection.
- 1.1.5 Compliance to CS 25.561 and 787, emergency landing condition and stowage compartments, must be shown to ensure correct application of the applicable inertias in both the passenger and cargo roles.

For existing converted aircraft compliance to the above may be accomplished by embodiment of PEMCO Service Bulletin SB737-52-0033. For new conversions of aircraft PEMCO MDL 2373 at rev H or later satisfies the above.

#### 1.2 Systems

- 1.2.1 Compliance to CS 25.783 and 1309, doors and door system integrity, must be shown in respect of dormant failures within the main deck cargo door which could result in door opening in flight or pressurisation of the aircraft with the door not properly closed, latched and locked.

For existing converted aircraft compliance to the above may be accomplished by embodiment of PEMCO Service Bulletin SB737-29-0011. For new conversions of aircraft PEMCO MDL 2373 at rev K or later satisfies the above.

**(1) Boeing 737-8 MAX and -9 MAX**

Civil Aviation Authority

**AIRWORTHINESS DIRECTIVE****Number: G-2021-0001 R1**

Issue date: 14 May 2021



<p>Note: In this Airworthiness Directive, references to EU regulations are to those regulations as retained and amended in UK domestic law under the European Union (Withdrawal) Act 2018 and are referenced as "UK Regulation (EU) year/number or UK Regulation (EU) No. number/year".</p> <p>This Airworthiness Directive (AD) is issued by the UK CAA, acting as the Authority of the State of Registry for the affected product(s) under Article 34 of the Air Navigation Order 2016 (ANO) and UK Regulation (EU) 2018/1139, in accordance with UK Regulation (EU) No. 748/2012 Part 21.A.3B.</p> <p>In accordance with UK Regulation (EU) No. 1321/2014 Annex I, Part-M, M.A.301, the continuing airworthiness of an aircraft shall be ensured by accomplishing any applicable ADs. Consequently, no person may operate an aircraft to which an AD applies, except in accordance with the requirements of that AD, unless otherwise specified or agreed by the CAA [Part-M, M.A.303].</p>	
Design Approval Holder's Name: <b>THE BOEING COMPANY</b>	Type/Model Designation(s): <b>737-8 and 737-9 aeroplanes</b>
<b>TCDS:</b>	EASA.IM.A.120
<b>Revision:</b>	This AD revises CAA AD G-2021-0001 dated 27 January 2021, which superseded EASA AD 2019-0051R1 dated 25 March 2019.
<b>ATA 22, 27, 31 and 34</b>	<b>ATA 22 – Auto Flight – Flight Control Computer Software – Installation / Test</b> <b>ATA 27 – Flight Controls – Horizontal Stabilizer Trim Wire Bundle Routing – Modification / Stall Warning System Stick Shaker Circuit Breaker Buttons (Coloured Caps) – Installation</b> <b>ATA 31 – Instruments – Operational Program Software – Updates</b> <b>ATA 34 – Navigation – Angle of Attack Sensors – Test</b> <b>– Airplane Flight Manual – Limitations / Operating Procedures – Amendment</b> <b>– Master Minimum Equipment List – Amendment</b> <b>– Operational Readiness Flight / Pilot Training / Flight Simulation Training Devices</b>
<b>Manufacturer(s):</b>	The Boeing Company
<b>Applicability:</b>	Model 737-8 and 737-9 (commercially known as 'MAX') aeroplanes, all manufacturer serial numbers (MSN).

Civil Aviation Authority Airworthiness Directive

SARG Airworthiness

<p><b>Definitions:</b></p>	<p>For the purpose of this AD, the following definitions apply:</p> <p><b>Ferry flight:</b> Any non-passenger, non-commercial flight conducted after 27 January [the effective date of the original issue of this AD], operating with a permit-to-fly issued under Annex I (Part 21) of UK Regulation (EU) No. 748/2012, and under flight conditions approved by CAA.</p> <p><b>Affected FCC OPS:</b> Flight Control Computer (FCC) Operational Program Software (OPS) P11.1, (for model 737-8) and P.10.0 (for model 737-9), or earlier FCC OPS.</p> <p><b>Affected MDS DPC OPS:</b> MAX Display System (MDS) Display Processing Computer (DPC) Operational Program Software (OPS), Block Point (BP) 1.5, or earlier MDS DPC OPS/BP.</p> <p><b>Serviceable FCC OPS:</b> FCC OPS P12.1.2, Part Number (P/N) 2274-COL-AC2-26, or later FCC OPS and corresponding P/N.</p> <p><b>Serviceable MDS DPC OPS:</b> MDS DPC OPS, BP 1.5.1, P/N COL49-0078-0006, or later MDS DPC OPS/BP and corresponding P/N.</p>
	<p><b>The applicable SB:</b> Boeing Alert Requirements Bulletin (RB) 737-22A1342 RB, for the FCC OPS P12.1.2 introduction; Service Bulletin (SB) 737-27-1320, for the stick shaker circuit breakers button (coloured cap) installation; Special Attention SB 737-31-1860 (at any revision), for the MDS OPS update; Special Attention SB 737-27-1318 Revision 2, for the horizontal stabilizer trim wiring wire bundle routing modification; Special Attention SB 737-00-1028, for the angle-of-attack (AOA) sensor system test and operational readiness flight; as applicable.</p> <p><b>Groups:</b></p> <p><b>Group 1</b> aeroplanes are those MSN identified by line number in Boeing Special Attention SB 737-31-1860 original issue, dated 12 June 2020. Refer to Boeing Document D6-19567 Part 3 for the line number and the corresponding MSN.</p> <p><b>Group 2</b> aeroplanes are all other MSN.</p>

<b>Reason:</b>	<p>EASA issued Proposed Airworthiness Directive (PAD) 20-184 on 24 November 2020 proposing an AD to supersede EASA AD 2019-0051R1 and requesting comments. This was published whilst EASA was the “competent authority” for aircraft design for the UK. Following the disposition of comments responding to EASA PAD 20-184, the content of this CAA AD is based on EASA’s technical findings in relation to the identified unsafe conditions.</p> <p>Prompted by two fatal accidents with Boeing 737-8 aeroplanes, EASA issued Emergency AD 2019-0051-E (later revised) to suspend all flight operations of the two affected models. EASA AD 2019-0051R1 allowed non-passenger, non-commercial ferry flights and defined the conditions for such ferry flights. (Note: These EASA ADs were applicable to UK registered aircraft as they were issued prior to 1 January 2021)</p> <p>Previously, FAA issued AD 2018-23-51, which was adopted by EASA. Since that AD was issued, FAA issued AD 2020-24-02, superseding FAA AD 2018-23-51 which is no longer valid. This CAA AD is the Authority’s decision not to adopt FAA AD 2020-24-02 for UK registered aeroplanes.</p> <p>The results of safety investigations conducted by the States where these events occurred, as well as EASA’s safety review, have confirmed that, with affected FCC OPS installed, a single erroneous high AOA sensor input to the FCC on an affected aeroplane during manual flight with flaps up may have prompted the Manoeuvring Characteristics Augmentation System (MCAS) to input incremental nose down trim. In this scenario, the flight crew may be unable to respond appropriately by applying opposing nose-up stabilizer trim, returning the aeroplane to a trimmed state, and by actuating the stabilizer trim cut-out switches.</p> <p>This condition, if not corrected, could lead to a stabilizer position that cannot be fully countered with elevator input, possibly resulting in loss of control of the aeroplane.</p> <p>Prompted by those findings, Boeing developed new OPS for FCC and MDS DPC and issued the applicable SB to provide instructions for OPS in-service installation. Boeing also updated the Airplane Flight Manual (AFM) to introduce new flight crew procedures and limitations, and the applicable flight crew training programme(s), introducing new training to ensure pilot understanding of the MCAS functions, the consequences of introducing the serviceable OPS, and the new ‘Airspeed unreliable’ procedure.</p> <p>EASA conducted a comprehensive review of the measures proposed by Boeing, including flight testing, and considers that these measures adequately address the above described unsafe condition. The CAA has coordinated with EASA, acting as its Technical Agent and concurs with this position.</p> <p>.</p>
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Civil Aviation Authority Airworthiness Directive

SARG Airworthiness

	<p>For the reasons described above, the CAA issued AD G-2021-0001 on 27 January 2021, now revised by this AD, to supersede EASA AD 2019-0051R1, cancelling the 'suspension of flight operations' requirements of that AD. The affected Boeing 737-8 and 737-9 aeroplanes can be returned to service, provided that the actions required by this AD have been accomplished. To achieve this, this AD requires installation of serviceable FCC OPS and serviceable MDS DPC OPS, embodiment of certain modifications, including wiring changes, accomplishment of a sensor test, and installation of buttons (coloured caps) on the stick shaker circuit breakers. This AD also requires certain changes to the AFM to introduce the new flight crew procedures and limitations, including a prohibition to perform Required Navigation Performance - Authorization Required (RNP AR) approaches, until EASA AMC 20-26 compliance activities related to RNP AR approaches are completed. This AD also requires amendment of the EASA approved Boeing 737 MAX B 737-8/-9 Master Minimum Equipment List (MMEL) and the operator's approved minimum equipment list (MEL) for certain items. Following all these actions, this AD requires an operational readiness flight to be conducted. Finally, this AD prohibits (re)installation of affected FCC OPS and affected MDS DPC OPS, as defined in this AD.</p> <p>EASA participated in a Joint Operational Evaluation Board (JOEB) meeting convened by the FAA, also including Agência Nacional de Aviação Civil (ANAC) of Brazil and Transport Canada Civil Aviation (TCCA). This JOEB evaluated the procedural changes and the pilot training proposed by Boeing for the 737-8/-9 (MAX). The JOEB validated Boeing's proposed training changes, and Boeing embodied them in the Operational Suitability Data for Flight Crew (OSD FC), Boeing documents D626A014 and D626A014-1, both Revision NEW, as part of the EASA Boeing 737 validated type certificate, together with other changes. In particular, and in addition to initial type rating training, differences training from the Boeing 737-600 through 737-900ER series (NG) to the MAX has been improved with the addition of training elements, including new training areas of special emphasis (TASE). In order to support the new training elements, changes which are necessary for Flight Simulation Training Devices (FSTD) are described in the form of dedicated Simulator Data Bulletins (SDB), issued by Boeing Simulator Support. In order to ensure safe operation of the 737-8/-9 (MAX) upon return to service, this AD requires that "return to service" (RTS) training, including ground and flight training in a suitable full flight simulator (FFS), is performed prior to pilots operating the 737-8/-9 (MAX). The RTS training content is documented in a specific Appendix to the B737 OSD FC. Parts of the RTS training can also be done on a Boeing 737 NG FFS, being equivalent to the Boeing 737 MAX FFS for specific manoeuvres, as has been demonstrated during the JOEB process.</p> <p>In conjunction with this AD, the CAA has also issued Safety Directive (SD) <a href="#">2021/003</a> containing requirements for UK and third country operators (TCO) to meet before conducting operations of their Boeing 737-8 and 737-9 aeroplanes into, within or out of UK airspace, or for UK operators anywhere.</p> <p>Revision 1 of this AD introduces a Note, which was inadvertently omitted, into Figure 2 of Appendix 1, and to correct paragraph (3) of the Required Actions in order to avoid any possible conflict with later approved AFM revisions. No other changes have been made to the requirements of the original version of this AD.</p>
<b>Effective Date:</b>	<b>Revision 1: 14 May 2021</b> <b>Original issue: 27 January 2021</b>



<p><b>Required Action(s) and Compliance Time(s):</b></p>	<p>Required as indicated, unless accomplished previously:</p> <p><b>Installation/Test of FCC OPS:</b></p> <p>(1) For Group 1 aeroplanes: Before next flight after 27 January 2021 [the effective date of the original issue of this AD], install serviceable FCC OPS, as defined in this AD, and accomplish a software installation test in accordance with the instructions of the applicable SB. During the installation test, if the serviceable FCC OPS P/N is not shown as being installed on FCC A and FCC B (see Note 1 of this AD), before further flight, accomplish applicable corrective action(s) until the serviceable FCC OPS P/N is installed on FCC A and FCC B. Later-approved FCC OPS versions are only those Boeing software versions that are approved as a replacement for the affected FCC OPS, and are approved as part of the type design after 27 January 2021 [the effective date of the original issue of this AD].</p> <p>Note 1: The flight control system for 737 MAX aeroplanes includes two FCC units (FCC A and FCC B) which process inputs from the pilots and aeroplane sensors to move the control surfaces. Guidance for performing the installation, and verifying correct installation, of FCC OPS software can be found in the Boeing 737-7/8/8200/9/10 Aircraft Maintenance Manual (AMM), Section 22-11-33.</p> <p>This paragraph corresponds to paragraph (g) of FAA AD 2020-24-02.</p> <p><b>Stall Warning System Stick Shaker Circuit Breakers – Button (Coloured Cap) Installation:</b></p> <p>(2) For Group 1 and Group 2 aeroplanes: Before next flight after 27 January 2021 [the effective date of the original issue of this AD], install a button (coloured cap) on each stick shaker circuit breaker, on panels P6-1 and P18-2, in accordance with the instructions of the applicable SB.</p> <p>This paragraph does not correspond to any paragraph of FAA AD 2020-24-02.</p> <p><b>AFM Amendment(s):</b></p> <p>(3) For Group 1 aeroplanes: Before next flight after 27 January 2021 [the effective date of the original issue of this AD], amend the applicable AFM, Boeing Document D631A002, by including the changes as specified in Appendix 1 of this AD. This can be accomplished by inserting a copy of Figures 1 through 11 of Appendix 1 into the applicable AFM.</p> <p><b>Revising the applicable AFM by introducing a later approved AFM revision is an acceptable method to comply with this requirement.</b></p> <p>In addition, before the next flight after 27 January 2021 [the effective date of the original issue of this AD], remove the AFM information previously required by FAA AD 2018-23-51 (which will be superseded by the Final Rule AD for FAA AD 2020-24-02) from the Certificate Limitations and Operating Procedures chapters of the applicable AFM.</p> <p>This paragraph corresponds to, <b>but is different from</b>, paragraph (h) of FAA AD 2020-24-02.</p>
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	<p><b>MMEL Provisions for Inoperative Flight Control System Functions:</b></p> <p>(4) For Group 1 aeroplanes: From 27 January 2021 [the effective date of the original issue of this AD], do not operate (dispatch) an aeroplane, unless the provisions specified in Figure 12 of Appendix 1 of this AD are incorporated into the EASA-approved Boeing 737 MAX B 737 8/ 9 MMEL, on the basis of which the operator's approved MEL must be amended. This can be accomplished by inserting a copy of Figure 12 of Appendix 1 into the applicable operator MEL.</p> <p>The required changes are contained in EASA approved Boeing 737 MAX B-737-8/-9 MMEL, Boeing document D639A001-02, Revision 2. Revising the operator MEL by introducing that Revision 2, or a later EASA approved MMEL revision, is an acceptable method to comply with this requirement.</p> <p>This paragraph corresponds to, <b>but is different from</b>, paragraph (i) of FAA AD 2020-24-02.</p> <p><b>Installation/Verification of MDS Software, Removal of INOP Markers:</b></p> <p>(5) For Group 1 aeroplanes: Before the next flight after 27 January 2021 [the effective date of the original issue of this AD], accomplish all applicable actions identified as "RC" (required for compliance) in, and in accordance with the instructions of, the applicable SB.</p> <p>This paragraph corresponds to paragraph (j) of FAA AD 2020-24-02.</p> <p><b>Horizontal Stabilizer Trim Wire Bundle Routing Change</b></p> <p>(6) For Group 1 aeroplanes: Before the next flight after 27 January 2021 [the effective date of the original issue of this AD], accomplish all applicable actions identified as "RC" in, and in accordance with the instructions of, the applicable SB.</p> <p>This paragraph corresponds to paragraph (k) of FAA AD 2020-24-02.</p> <p><b>AOA Sensor System Test</b></p> <p>(7) For Group 1 aeroplanes: Before next flight after 27 January 2021 [the effective date of the original issue of this AD], accomplish all applicable actions identified as "RC" for the "AOA Sensor System Test" as specified in, and in accordance with the instructions of, the applicable SB.</p> <p>This paragraph corresponds to paragraph (l) of FAA AD 2020-24-02.</p> <p><b>Operational Readiness Flight</b></p> <p>(8) For Group 1 aeroplanes: Before next flight after accomplishment of the actions required by paragraphs (1) through (7) of this AD, accomplish all applicable actions identified as "RC" for the "Operational Readiness Flight" as specified in, and in accordance with, the instructions of the applicable SB. The CAA approved flight conditions, as specified in Appendix 2 of this AD, form the basis on which a Permit to Fly can be issued in accordance with Annex I (Part 21) of UK Reg (EU) No. 748/2012 to accomplish the operational readiness flight required by this paragraph.</p> <p>No additional CAA flight conditions approval is required for the operational readiness flight.</p>
Airworthiness Directive G-2021-0001 R1	Page 6 of 20

	<p>Before next flight after the operational readiness flight, any mechanical irregularities that occurred during the operational readiness flight must be rectified by the maintenance organisation and in consideration of the procedure for the management of defects of the organisation responsible for the continuing airworthiness of the aeroplane.</p> <p>This paragraph corresponds to, <b>but is different from</b>, paragraph (m) of FAA AD 2020-24-02.</p> <p><b>Credit:</b></p> <p>(9) Modification of an aeroplane in accordance with the instructions of Boeing Special Attention SB 737-27-1318 at original issue, dated 10 June 2020, or Revision 1 dated 24 June 2020, and 737-27-1318 AMOC 01 (ref. SB 737-27-1318 at R2), dated 25 November 2020, 737-27-1318 AMOC 02 (ref SB 737-27-1318 at R2) or 737-27-1318 AMOC 03 (ref SB 737-27-1318 at original issue or R1), dated 23 December 2020, as applicable, is an acceptable method to comply with the requirements of paragraph (6) of this AD for that aeroplane, provided the 14 Installation Deviation Records (IDRs) identified in paragraph 1.D., "Description," of Boeing Special Attention SB 737 27 1318, Revision 2, dated 10 November 2020, have been incorporated on the aeroplane. Accomplishment of FAA-approved Boeing IDRs not identified in paragraph 1.D., "Description," of Boeing Special Attention SB 737-27-1318 Revision 2, and 737-27-1318 AMOC 01 or 737-27-1318 AMOC 02, as applicable, is acceptable for compliance with the corresponding "RC" steps specified in Special Attention SB 737-27-1318, Revision 1, dated 10 June 2020, provided those IDRs include reference to Boeing Special Attention SB 737-27-1318, Revision 1, dated 10 June 2020.</p> <p>This paragraph corresponds to, <b>but is different from</b>, paragraph (o)(2) of FAA AD 2020-24-02.</p> <p style="text-align: center;">****</p> <p>Paragraphs (10) to (15) of this AD <b>do not correspond to any requirements</b> as specified in FAA AD 2020-24-02. Some of these actions are recommended by FAA Safety Alert for Operators (SAFO) <a href="#">20014</a> and SAFO <a href="#">20015</a>.</p> <p><b>Return to Flight Operations:</b></p> <p>(10) For Group 1 aeroplanes: Modification of an aeroplane by accomplishing all actions as required by paragraphs (1) through (8) of this AD, including software installation verifications/tests, implementation of all AFM and MMEL changes, an AOA Sensor System Test, and an operational readiness flight, cancels the suspension of flight operations as previously required by EASA AD 2019-0051R1 for that aeroplane.</p> <p>For Group 2 aeroplanes: Installation of buttons (coloured cap) on the circuit breakers of the Stall Warning System Stick Shaker on an aeroplane, as required by paragraph (2) of this AD, cancels the suspension of flight operations as previously required by EASA AD 2019-0051R1 for that aeroplane.</p>
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	<p><b>Pilot Training Requirements:</b></p> <p>(11) From the 27 January 2021 [the effective date of the original issue of this AD], prior to any commercial or non-commercial flight, ensure that each pilot has performed the training as specified in paragraph (11.1) or (11.2) of this AD, as applicable. Ferry-flights, as defined in this AD, may be conducted by pilots who have not completed the additional training specified by paragraph (11.1) or (11.2), provided that specific flight conditions are approved by CAA for such ferry flights.</p> <p>(11.1) For a pilot who already holds a type rating for any Boeing Model 737-600 through 737-900ER (inclusive), with privileges to operate a model 737-8 or -9 (MAX) aeroplane: RTS training outlined in Appendix 3 to the Operational Suitability Data – Flight Crew (OSD-FC) Boeing 737, Boeing document D626A014, and in Boeing 737 document D626A014-1, Operator Difference Requirement Tables, both Revision NEW, which contain elements constituting the training module to support the RTS of the Boeing 737-8 and -9 (MAX).</p> <p>(11.2) For all other pilots: An initial type rating course for the Boeing 737-8/-9 (MAX), or differences (conversion from another model) training to the Boeing 737-8/-9 (MAX), as applicable, which includes the mandatory elements of the OSD-FC Boeing 737, Boeing document D626A014 Revision NEW.</p> <p><b>Full Flight Simulators (FFS) used for Pilot Training:</b></p> <p>(12) From the 27 January 2021 [the effective date of the original issue of this AD], ensure that FSTD used to deliver training to pilots, as required by paragraph (11) of this AD, are capable to support the applicable OSD-FC TASE and the RTS Appendix, as applicable. Concurrently, liaise with the FSTD Operator to verify that the requirements of paragraphs (13) and (14) of this AD are complied with.</p> <p>(13) From the 27 January 2021 [the effective date of the original issue of this AD], ensure that on each Boeing 737 MAX FFS, used to deliver training to pilots as required by paragraph (12) of this AD, the instructions of the applicable Boeing SDBs related to the Boeing 737 MAX RTS are embodied. To this extent, the actions specified in paragraphs (13.1) and (13.2) are applicable.</p> <p>(13.1) FSTD / FFS Binary Simulation Load must incorporate revision 3.23.4_3, or later, as described in Boeing SDB-737-001 Revision G, or later revisions, and the FCC software revision P12.1.2 must be active.</p> <p>Note 2: UK Regulation (EU) No. 1178/2011, point ORA.FSTD.110 'Modifications', requires that the competent authority must be notified of the updated Binary Simulation Load. The FSTD documentation available to the user (qualification certificate and/or FSTD configuration control documents) must have a clear identification of the Binary Simulation Load installed.</p> <p>(13.2) Evaluate the manual stabilizer trim system for proper control forces and travel as described in UK CS-FSTD(A) initial issue (and issue 2) Appendix 1 to UK CS FSTD(A).300 FSTD points g.1 and i.1. As described in g.1, system operation should be predicated on, and traceable, to the system data provided by the aeroplane manufacturer, original equipment manufacturer, or alternative approved data. The instructions of Boeing SDB-737-006 provide an acceptable method for FSTD Operators to validate manual stabilizer trim wheel forces. Whenever the forces are not adequate to meet the training objectives, the FSTD Operator must declare the FFS unsuitable to conduct training on manual stabilizer trim wheel.</p>
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	<p>(14) From the 27 January 2021 [the effective date of the original issue of this AD], ensure that on Boeing 737 NG FFS, when used to deliver training to pilots as required by paragraph (11) of this AD, manual stabilizer trim system is evaluated for proper control forces and travel as described in UK CS-FSTD(A) initial issue (and issue 2) Appendix 1 to UK CS-FSTD(A).300 FSTD Standards g.1 and i.1. As described in g.1, system operation should be predicated on, and traceable to, the system data provided by the aeroplane manufacturer, original equipment manufacturer, or alternative approved data. For previously qualified FFSs (those that have a qualification basis before UK CS-FSTD(A) initial issue became applicable), the FSTD operator should refer to the original FFS qualification basis Primary Reference Document standard (the standard under which the FFS was initially qualified), which contains similar requirements to evaluate control forces and travel.</p> <p>The instructions of Boeing SDB-737-007 provide an acceptable method for FSTD operators to validate manual stabilizer trim wheel forces. Whenever the forces are not adequate to meet the training objectives, the FSTD operator must declare the FFS unsuitable to conduct training on manual stabilizer trim wheel.</p> <p><b>Prohibition to Install affected FCC OPS and affected MDS DPC OPS:</b></p> <p>(15) For Group 1 and Group 2 aeroplanes: From the 27 January 2021 [the effective date of the original issue of this AD], do not install on any aeroplane affected FCC OPS or affected MDS DPC OPS, as defined in this AD.</p>
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Civil Aviation Authority Airworthiness Directive

SARG Airworthiness

<p><b>Reference Publications:</b></p>	<p>Boeing Special Attention SB 737-00-1028 original issue dated 20 July 2020.</p> <p>Boeing Alert Requirements Bulletin 737-22A1342 RB dated 17 November 2020, or Revision 1 dated 23 December 2020.</p> <p>Boeing Special Attention SB 737-27-1318 original issue dated 10 June 2020, or Revision 1 dated 24 June 2020, and Revision 2 dated 10 November 2020.</p> <p>Boeing SB 737-27-1320 original issue dated 14 October 2020.</p> <p>Boeing Special Attention SB 737-31-1860 original issue dated 12 June 2020, or Revision 1 dated 02 July 2020.</p> <p>Boeing SDB-737-001 Revision G dated 09 November 2020.</p> <p>Boeing SDB-737-006 original issue dated 03 June 2019.</p> <p>Boeing SDB-737-007 original issue dated 13 June 2019.</p> <p>EASA approved Boeing 737 MAX B-737-8/-9 MMEL, Boeing document D639A001-02, Revision 2, dated 25 September 2020, EASA approved on 23 December 2020.</p> <p>Boeing 737 document D626A014 (Operational Suitability Data – Flight Crew) Revision NEW, dated 24 November 2020, EASA approved on 22 December 2020.</p> <p>Boeing 737 document D626A014-1 (Operator Difference Requirement Tables) Revision NEW, dated 24 November 2020, EASA approved on 22 December 2020</p> <p>Boeing 737 MAX B-737-8/-9 AFM, Boeing document D631A002 (operator-customised AFM applies) EASA approved on 22 December 2020.</p> <p>The use of later approved revisions of the above-mentioned documents is acceptable for compliance with the requirements of this AD.</p>
<p><b>Remarks:</b></p>	<p>[1]. The original issue of this AD followed EASA PAD No.: 20-184 which was posted on 24 November 2020.</p> <p>[2]. Enquiries regarding this Airworthiness Directive should be referred to: Continued.Airworthiness@caa.co.uk</p>

## Appendix 1 – AFM and MMEL Changes

In the Operating Procedures chapter, revise the General paragraph to include the information in

<b>Figure 1 to paragraph (3) of this AD</b>	
<b>Standard Operating Procedures</b>	<b>(Required by CAA AD G-2021-0001 R1)</b>
<p>Flight crews should follow company specific Standard Operating Procedures (SOPs) for the handling of Non-Normal Situations. Company SOPs for handling Non-Normal situations must include at least the items mentioned below:</p> <p>As a general overview of how non-normal situations should be conducted, consider maximum use of autoflight system to reduce workload, if available and appropriate. The flight crew should recognize and announce the non-normal situation to be acknowledged by other pilot.</p> <p>Maintain airplane control: The Pilot Flying (PF) is to maintain airplane control and ensure that the flight path is under control. The Pilot Monitoring (PM) is to monitor the flight path.</p> <p>Analyse the situation and apply good CRM: The flight crew shall review all warning lights, caution lights, and other alert lights to identify the non-normal situation. Prioritize alerts and recommend course of action.</p> <p>Take the proper action: Do the NNC memory items based on each crewmember's area of responsibility. Call for and complete the appropriate NNC. Review all warning lights, caution lights, and other alerts; complete other NNCs as required.</p> <p>Evaluate the need to land: Assess status of the airplane. Review options for diversion or continued flight.</p> <p>Definitions:</p> <p>Recall items are minimum immediate action items</p> <p>Reference items are accomplished after Recall items have been accomplished.</p>	

This figure **does not correspond to any requirement** of FAA AD 2020-24-02.

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In the Operating Procedures chapter, replace the existing Airspeed Unreliable paragraph with the information in

<b>Figure 2 to paragraph (3) of this AD</b>	
<b>Airspeed Unreliable (E)</b>	<b>(Required by CAA AD G-2021-0001 R1)</b>
<p><b>Airspeed Unreliable</b></p> <p>Airspeed or Mach indications are suspected to be unreliable:</p> <p>Recall:</p> <ul style="list-style-type: none"> <li>• If autopilot is engaged, disengage.</li> <li>• If autothrottle is engaged, disengage.</li> <li>• Set both F/D switches to off.</li> <li>• Set the following gear up pitch attitude and thrust:</li> <li>• Flaps extended: 10° and 80% N1</li> <li>• Flaps up: 4° and 75% N1</li> </ul>	

**Figure 2 to paragraph (3) of this AD****Airspeed Unreliable (E)****(Required by CAA AD G-2021-0001 R1)**

Reference:

PROBE HEAT switches check on.

The following indications are reliable: attitude, N1, ground speed, and radio altitude.

**Notes:**

1. Stick shaker, overspeed warning and airspeed low alerts may sound erroneously or simultaneously.
2. The flight path vector and pitch limit indicator may be unreliable on the PFD and HUD (as installed).
3. If the AOA indicator option is installed, the stick shaker indicator may be unreliable. AOA digital readout, analogue needle, and approach reference band may be unreliable if the airspeed unreliable condition is caused by erroneous AOA.

Attempt to determine a reliable airspeed indication.

If a reliable airspeed indication can be determined:

Use the reliable airspeed indication for the remainder of the flight. If only the standby airspeed indication is reliable do not use autopilot, autothrottle, or flight directors. If the captain's or first officer's airspeed indication is reliable, turn on the flight director switch on the reliable side. If needed, engage autopilot on the reliable side. Do not use autothrottle.

**Note:** Autopilot may not engage or may disengage automatically.

If a reliable airspeed indication cannot initially be determined:

Using performance tables from an approved source, set the pitch attitude and thrust setting for the current airplane configuration and phase of flight. When in trim and stabilized, compare the captain, first officer, and standby airspeed indicators with the airspeed shown in the table. An airspeed indication that differs by more than 20 knots or 0.03 Mach from the airspeed shown in the table should be considered unreliable. If only the standby airspeed indication is reliable, do not use autopilot, autothrottle, or flight directors. If the captain's or first officer's airspeed indication is reliable, turn on the flight director switch on the reliable side, and autopilot if needed. Do not use autothrottle.

**Note:** Autopilot may not engage or may disengage automatically.

If a reliable airspeed indication cannot be determined using performance tables from an approved source:

Using the performance tables from an approved source, set pitch attitude and thrust setting for the airplane configuration and phase of flight as needed. Reference an approved source for landing distances.

**Notes:**

1. Maintain visual conditions if possible.
2. Establish landing configuration early.
3. Radio altitude reference is available below 2500 feet.
4. Use electronic and visual glideslope indicators, where available, for approach and landing. Attempt to determine a reliable altitude indication.



<b>Figure 2 to paragraph (3) of this AD</b>	
<b>Airspeed Unreliable (E)</b>	<b>(Required by CAA AD G-2021-0001 R1)</b>
<p>Use the most reliable altitude indication for the remainder of the flight. If the captain's or first officer's altitude indication is reliable:</p> <p>The airplane may not meet RVSM requirements. Set transponder to reliable side and select traffic alerts only mode.</p> <p>If captain's and first officer's altitude indications are both unreliable:</p> <p>Turn off transponder altitude reporting.</p> <p><b>Note:</b> Airplane does not meet RVSM requirements.</p> <p>A nuisance stick shaker may be deactivated at pilot's discretion. This improves recognition of a stall warning on the opposite side.</p> <p><b>Note:</b> Elevator Feel Shift may be active, resulting in increased control column forces. If deactivating stick shaker <b>is</b> needed: Only the active stick shaker should be deactivated. Deactivate erroneous stick shaker.</p> <p><b>Notes:</b></p> <ol style="list-style-type: none"> <li>1. When the circuit breaker is pulled, increased control column forces due to Elevator Feel Shift activation are removed.</li> <li>2. The stick shaker on the opposite side is not deactivated.</li> </ol> <p>If deactivating stick shaker <b>is not</b> needed; end of procedure except deferred items.</p> <p>In addition to the normal descent, approach and landing checklists, complete the following deferred items:</p> <p>For approach, only set the BARO minimums on the reliable PFD. Remove the BARO minimums from the unreliable PFD.</p> <p><b>Note:</b> If BARO minimums are set only on the First Officer's PFD, DH/MDA aural callouts are not provided. In the event of a go-around, do the normal go-around procedure except refer to the Flight with Unreliable Airspeed go-around table to determine the go-around pitch setting.</p> <p>In the event of a go-around if either the Captain's or First Officer's airspeed indication is reliable, when TO/GA is pushed, the flight director pitch bar may be removed. Selection of an AFDS pitch mode change, such as LVL CHG, restores the flight director pitch bar.</p> <p><b>Note:</b> Only use flight director guidance on the reliable PFD.</p> <p>In the event of a go-around and the standby airspeed indication is the only reliable airspeed, do not use TO/GA.</p>	

This figure corresponds to, **but is different from**, the requirements of Figure 2 to paragraph (h)(3) of FAA AD 2020-24-02.

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Civil Aviation Authority Airworthiness Directive

SARG Airworthiness

In the Certificate Limitations chapter, revise the Required Navigation Performance paragraph to include the information in

<b>Figure 3 to paragraph (3) of this AD</b>	
<b>Required Navigation Performance - Authorization Required</b>	<b>(Required by CAA AD G-2021-0001 R1)</b>
Conducting RNP AR operation is prohibited.	

This figure **does not correspond to any requirement** of FAA AD 2020-24-02.

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In the Operating Procedures chapter, replace the existing Runaway Stabilizer paragraph with the information in

<b>Figure 4 to paragraph (3) of this AD</b>	
<b>Runaway Stabilizer (E)</b>	<b>(Required by CAA AD G-2021-0001 R1)</b>
If uncommanded stabilizer movement occurs continuously or in a manner not appropriate for flight conditions:	
Recall:	
Firmly hold control column. Disengage autopilot if engaged. Disengage autothrottle if engaged. Use the control column and thrust levers to control airplane pitch attitude and airspeed. Use main electric stabilizer trim to reduce control column forces.	
If the runaway stops after autopilot is disengaged, do not re-engage autopilot or autothrottle; end of procedure.	
If the runaway continues after autopilot is disengaged, place both STAB TRIM cutout switches to CUTOFF.	
If the runaway continues, grasp and hold stabilizer trim wheel.	
Reference:	
Trim the stabilizer manually.	
Notes:	
1. A two-pilot effort may be used to correct an out of trim condition.	
2. Reducing airspeed reduces airloads on the stabilizer which can reduce the effort needed to manually trim. Anticipate trim requirements. Do not re-engage autopilot or autothrottle.	
In addition to the normal descent, approach and landing checklists, complete the following deferred item:	
Establish landing configuration and in-trim condition early on final approach.	

This figure corresponds to the requirements of Figure 3 to paragraph (h)(4) of FAA AD 2020-24-02.

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In the Operating Procedures chapter, replace the existing Stabilizer Trim paragraph with the information in

<b>Figure 5 to paragraph (3) of this AD</b>	
<b>Stabilizer Trim Inoperative</b>	<b>(Required by CAA AD G-2021-0001 R1)</b>
Loss of electric trim through the main electric stabilizer trim switches, or when directed by the Stabilizer Out of Trim procedure.	
Place both STAB TRIM cutout switches to CUTOUT. The autopilot is not available. Trim stabilizer manually. A two-pilot effort may be used and will not cause system damage.	
Notes:	
<ol style="list-style-type: none"> <li>1. Reducing airspeed reduces airloads on the stabilizer which can reduce the effort needed to manually trim.</li> <li>2. If the failure could be due to ice accumulation, descend to a warmer temperature and attempt again to trim manually.</li> </ol>	
If the stabilizer can be trimmed manually, anticipate trim requirements. If the stabilizer cannot be trimmed manually, expect higher than normal elevator forces during approach and landing. The thrust reduction at flare will cause a nose down pitch.	
Plan a flaps 15 landing. Set Vref 15+10 knots.	
<b>Note:</b> The maximum wind additive should not exceed 5 knots. Check the non-normal landing distance tables in an approved source.	
In addition to the normal descent, approach and landing checklists, complete the following deferred items:	
Review the normal go-around procedure. During a go-around, advance thrust to go-around smoothly and slowly to avoid excessive pitch-up.	
Establish landing configuration early on final approach.	

This figure corresponds to the requirements of Figure 4 to paragraph (h)(5) of FAA AD 2020-24-02.

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In the Operating Procedures chapter, add the information in

<b>Figure 6 to paragraph (3) of this AD</b>	
<b>Speed Trim Fail</b>	<b>(Required by CAA AD G-2021-0001 R1)</b>
The Speed Trim function and MCAS function are inoperative.	
Continue normal operation.	
<b>Note:</b> The Speed Trim System will not provide stabilizer trim inputs when deviating from a trimmed airspeed.	

This figure corresponds to the requirements of Figure 5 of paragraph (h)(6) of FAA AD 2020-24-02.

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In the Operating Procedures chapter, add the information in

<b>Figure 7 to paragraph (3) of this AD</b>	
<b>Stabilizer out of Trim</b>	<b>(Required by CAA AD G-2021-0001 R1)</b>
The STAB OUT OF TRIM light illuminates for the following conditions:	
On the ground: A partial failure of a Flight Control Computer.	
In-flight: the autopilot does not set the stabilizer trim correctly.	
If on ground, do not take off. End of procedure.	
In flight, during large changes in trim requirements, the STAB OUT OF TRIM light may illuminate momentarily. If the stabilizer is trimming, continue normal operation; end of procedure.	
In flight, if the stabilizer is not trimming, hold control column firmly. Disengage autopilot. Disengage autothrottle if engaged. Use main electric stabilizer trim as needed.	
If the stabilizer responds to electric trim inputs, do not re-engage the autopilot or autothrottle; end of procedure.	
If the stabilizer does not respond to electric trim inputs, accomplish the Stabilizer Trim Inoperative procedure.	

This figure corresponds to the requirements of Figure 6 of paragraph (h)(7) of FAA AD 2020-24-02.

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In the Operating Procedures chapter, add the information in

<b>Figure 8 to paragraph (3) of this AD</b>	
<b>AOA Disagree</b>	<b>(Required by CAA AD G-2021-0001 R1)</b>
When AOA DISAGREE appears on the PFD, this indicates the left and right angle of attack vanes disagree. Accomplish the Airspeed Unreliable procedure.	

This figure corresponds to the requirements of Figure 7 of paragraph (h)(8) of FAA AD 2020-24-02.

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In the Operating Procedures chapter, add the information in

<b>Figure 9 to paragraph (3) of this AD</b>	
<b>ALT Disagree</b>	<b>(Required by CAA AD G-2021-0001 R1)</b>
The ALT DISAGREE alert is displayed on the captain's and first officer's altitude tape on the PFD when the indications disagree.	
If the IAS DISAGREE alert is also shown on the speed tape of the PFD, accomplish the Airspeed Unreliable procedure.	
If the IAS DISAGREE is not shown, check all altimeters are set to correct barometric setting.	
If the ALT DISAGREE alert remains, do not use the flight path vector, and if a reliable altitude is determined, use the transponder for the reliable side.	

Civil Aviation Authority Airworthiness Directive

SARG Airworthiness

<b>Figure 9 to paragraph (3) of this AD</b>	
<b>ALT Disagree</b>	<b>(Required by CAA AD G-2021-0001 R1)</b>
If a reliable altitude is not determined, set the transponder to not transmit altitude.	
In addition to the normal descent, approach and landing checklists, complete the following deferred items: For approach, only set the BARO minimums on the reliable PFD. Remove the BARO minimums from the unreliable PFD.	
<b>Note:</b> If BARO minimums are set only on the First Officer's PFD, DH/MDA aural callouts are not provided.	
<ul style="list-style-type: none"> <li>- Establish landing configuration early.</li> <li>- Radio altitude reference is available below 2 500 ft.</li> <li>- Use electronic and visual glideslope indicators where available for approach and landing.</li> </ul>	

This figure corresponds to the requirements of Figure 8 of paragraph (h)(9) of  
FAA AD 2020-24-02.

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In the Operating Procedures chapter, add the information in

<b>Figure 10 to paragraph (3) of this AD</b>	
<b>IAS Disagree</b>	<b>(Required by CAA AD G-2021-0001 R1)</b>
When IAS DISAGREE appears on the PFD, this indicates the captain's and first officer's airspeed indicators disagree. Accomplish the Airspeed Unreliable procedure.	

This figure corresponds to the requirements of Figure 9 of paragraph (h)(10) of  
FAA AD 2020-24-02.

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In the Certificate Limitations and Operating Procedures chapters, add the information in

<b>Figure 11 to paragraph (3) of this AD</b>	
<b>Autopilot Single Channel Operation / Malfunction</b>	<b>(Required by CAA AD G-2021-0001 R1)</b>
<b>Limitations</b>	
For single channel operation during approach, the autopilot shall not remain engaged below the Minimum Use Height (MUH).	
The following table defines the MUH for single channel operation as function of aircraft model:	
<b>Aircraft Model</b>	<b>MUH (feet AGL)</b>
737-8	111
737-9	130
<b>Operating Procedures - Demonstrated Altitude Loss</b>	
The demonstrated altitude loss due to a simulated hard-over single channel autopilot malfunction is:	
<ul style="list-style-type: none"> <li>- Level Flight:</li> <li>- Flaps up when recovery was initiated 3 seconds after the recognition point:</li> </ul>	

<b>Figure 11 to paragraph (3) of this AD</b>							
<b>Autopilot Single Channel Operation / Malfunction</b>	<b>(Required by CAA AD G-2021-0001 R1)</b>						
<table border="1"> <thead> <tr> <th><b>Aircraft Model</b></th> <th><b>Demonstrated Loss (feet)</b></th> </tr> </thead> <tbody> <tr> <td>737-8</td> <td>259</td> </tr> <tr> <td>737-9</td> <td>230</td> </tr> </tbody> </table>		<b>Aircraft Model</b>	<b>Demonstrated Loss (feet)</b>	737-8	259	737-9	230
<b>Aircraft Model</b>	<b>Demonstrated Loss (feet)</b>						
737-8	259						
737-9	230						
Approach:							
(a) Within 1 second time delay between recognition point and initial recovery:							
<table border="1"> <thead> <tr> <th><b>Aircraft Model</b></th> <th><b>Demonstrated Loss (feet)</b></th> </tr> </thead> <tbody> <tr> <td>737-8</td> <td>31</td> </tr> <tr> <td>737-9</td> <td>35</td> </tr> </tbody> </table>		<b>Aircraft Model</b>	<b>Demonstrated Loss (feet)</b>	737-8	31	737-9	35
<b>Aircraft Model</b>	<b>Demonstrated Loss (feet)</b>						
737-8	31						
737-9	35						
(b) When a recovery was initiated without delay:							
<table border="1"> <thead> <tr> <th><b>Aircraft Model</b></th> <th><b>Demonstrated Loss (feet)</b></th> </tr> </thead> <tbody> <tr> <td>737-8</td> <td>8</td> </tr> </tbody> </table>		<b>Aircraft Model</b>	<b>Demonstrated Loss (feet)</b>	737-8	8		
<b>Aircraft Model</b>	<b>Demonstrated Loss (feet)</b>						
737-8	8						

This figure **does not correspond to any requirement** of FAA AD 2020-24-02.

\*\*\*\*

In the EASA-approved MMEL, add the information in

<b>Figure 12 to paragraph (4) of this AD</b>	
<b>CAA MMEL Changes</b>	<b>(Required by CAA AD G-2021-0001 R1)</b>
<b>ATA 22 – Autoflight</b>	
(1) <b>Autopilot Systems</b> 2.22-10-01.1 Deleted MMEL dispatch option. Dispatch is not permitted with both autopilot systems inoperative.	
(2) <b>Autopilot Disengage Aural Warning System</b> 2.22-10-02.1 Deleted MMEL item. The autopilot disengage aural warning system must be operative for dispatch.	
(3) <b>STAB OUT OF TRIM Light</b> 2.22-10-03.1 Deleted MMEL item. The STAB OUT OF TRIM light must be operative for dispatch.	
(4) <b>Speed Trim Function</b> 2.22-11-01.1 Deleted MMEL item. The speed trim function must be operative for dispatch.	
(5) <b>SPEED TRIM FAIL Light</b> 2.22-11-02.1 Deleted MMEL item. The SPEED TRIM FAIL light must be operative for dispatch.	

<b>Figure 12 to paragraph (4) of this AD</b>	
<b>CAA MMEL Changes</b>	<b>(Required by CAA AD G-2021-0001 R1)</b>
<p><b>(6) Mode Control Panel Switches</b>            2.22-11-05.1 Deleted MMEL dispatch option.            Dispatch is not permitted with both A/P ENGAGE Command (CMD) Switches (A and B) inoperative.</p>	
<p><b>(7) Mode Control Panel Switch Lights</b>            2.22-11-06.1 Deleted MMEL dispatch option.            Dispatch is not permitted with both A/P ENGAGE Command (CMD) switch lights inoperative.</p>	
<p><b>(8) Autoflight Status Annunciator</b>            2.22-11-08.1 Added MMEL requirement for (O) procedure.            2.22-11-08.1 Added proviso.            2.22-11-08.1 Deleted MMEL dispatch option.            Dispatch is not permitted with both autopilot (A/P) disengage lights inoperative. Dispatch may be made with one A/P disengage light inoperative, provided the autopilot disengage aural warning is verified to operate normally before each flight.</p>	
<p><b>(9) Control Wheel Autopilot Disengage Switches</b>            2.22-11-10.1 Added MMEL requirement for (O) procedure.            2.22-11-10.1 Added proviso.            2.22-11-10.1 Deleted MMEL dispatch option.            Dispatch is not permitted with both Control Wheel A/P Disengage Switches inoperative.            Dispatch may be made with one control wheel A/P disengage switch inoperative provided the following conditions are met.</p> <ul style="list-style-type: none"> <li>a) Mode Control Panel A/P DISENGAGE bar is verified to operate normally before each departure.</li> <li>b) A/P is not used below 1,500 feet AGL, and</li> <li>c) Approach minimums do not require use of A/P.</li> </ul>	
<p><b>ATA 27 - Flight Controls</b></p>	
<p><b>(10) Control Wheel Trim Switch Systems</b>            2.27-41-01.1 Deleted MMEL item.            Both control wheel trim switch systems must be operative for dispatch.</p>	

This figure corresponds to, **but is different from**, the requirements of Figure 10 of paragraph (i) of FAA AD 2020-24-02.

Note to Figure 12: The MEL provisions specified in figure 12 to paragraph (4) of this AD correspond to the changes introduced in EASA-approved Boeing 737 MAX B-737-8/-9 MMEL, Boeing document D639A001-02, Revision 2.

## Appendix 2

<b>CAA Form 18B - Approved Flight Conditions for a Permit to Fly – CAA AD G-2021-0001 R1</b>
<b>3. Aircraft manufacturer/type Boeing 737-8, -9 “MAX”</b>
<b>4. Serial number(s) MSN:</b> 44593, 44595, 44597, 44648, 44599, 44600
<b>5. Purpose (i.a.w. 21.A.701(a))</b> Flying an aeroplane for troubleshooting purposes or to check the functioning of one or more systems, parts or appliances after maintenance.
<b>Initial duration for Permit to Fly: From: 27 Jan 2021 Until: 31 Dec 2021</b>
<b>6. Aircraft configuration</b> These Flight Conditions are approved only for the purpose of carrying out the 'operational readiness flight' required by paragraph (9) of CAA AD G-2021-0001 R1. The holder of the Permit to Fly issued on the basis of these Flight Conditions shall ensure that, except for compliance with that AD and these flight conditions, the configuration of the aeroplane is compliant with the requirements of Annex I (Part-M) of UK Regulation (EU) No. 1321/2014.
<b>7. Substantiations</b> The implementation of actions required by CAA AD G-2021-0001 R1 ensures the correction of the unsafe conditions identified in EASA Emergency AD 2019-0051-E dated 12 March 2019. These Flight Conditions are required as CAA AD G-2021-0001 R1 mandates an operational readiness flight to be completed before an affected aeroplane can be safely returned to service. However, until this operational readiness flight is completed, the AD cannot be recorded as being complied with and until that time, the aeroplane's Airworthiness Review Certificate (ARC) remains invalid. Therefore, these Flight Conditions enable the issuance of a Permit to Fly, under which the operational readiness flight can be safely performed in absence of a valid ARC. CAA has determined and is satisfied that an aeroplane meeting the configuration as specified in Field 6 can perform the intended operational readiness flight safely under the defined conditions and restrictions as specified in Field 8. Note: A flight conducted in accordance with these flight conditions meets the criteria of a “Level B” maintenance check flight, as defined in UK Regulation (EU) No 965/2012, Annex VIII, Part SPO, SPO.SPEC.MCF.100 - Levels of maintenance check flight.
<b>8. Conditions/Restrictions</b> The operational readiness flight must be conducted in accordance with the following conditions or restrictions: <ul style="list-style-type: none"> <li>- The flight shall be conducted in accordance with the Accomplishment Instructions of Boeing Special Attention SB 737-00-1028 dated 20 July 2020. The use of Appendix A of the SB is optional.</li> <li>- The flight shall be a non-passenger, non-commercial flight.</li> <li>- These Flight Conditions are valid for one (1) operational readiness flight only.</li> </ul> The approval of these flight conditions remains valid, provided the aeroplane remains in the configuration as specified in Field 6, and compliance with all applicable airworthiness directives, including CAA AD G-2021-0001 R1, is ensured.
<b>9. Statement</b> These flight conditions have been established and justified in accordance with 21.A.708. The aeroplane as defined in Field 6 above has no features and characteristics making it unsafe for the intended operation under the conditions and restrictions as specified in Field 8.

Form SRG1728B Issue01, October 2020



## **(1) Boeing 747 Series Aircraft**

### **1 Additional Requirements and Special Conditions**

#### **1.1 Attitude Comparison (BOEING 747-400 SERIES)**

To comply with CS 25.1303(b)(5) the attitude comparator warning must give an immediately effective warning (e.g. a warning on or immediately adjacent to the PFD) that is not inhibited during any flight phase.

## **(1) Boeing 757 Series Aircraft**

### **1 Additional Requirements and Special Conditions**

1.1 **Applicable** to Boeing 757 Series.

#### **Attitude Display Systems**

The attitude display system shall comply with the requirements of BCAR Chapter D6-10, as subsequently endorsed by the guidance material to CS 25.1303(b)(5). Either a comparator warning indicator shall be installed or it shall be established that the probability of any self-monitoring system allowing dangerously incorrect information to be displayed without a clear warning shall be extremely remote.

## **(1) Boeing 767 Series Aircraft**

### **1 Additional Requirements and Special Conditions**

#### **1.1 Attitude Display Systems**

The attitude display system shall comply with the requirements of BCAR Chapter D6-10, as subsequently endorsed by the guidance material to CS 25.1303(b)(5). Either a comparator warning indicator shall be installed, or it shall be established that the probability of any self-monitoring system allowing dangerously incorrect information to be displayed without a clear warning shall be extremely remote.

## **(1) Boeing (Douglas) DC8 Series 50**

### **1 Additional Requirements and Special Conditions**

#### **1.1 Flap Selector**

A gated flap selector is required in accordance with Issue 4 of BCAR, Chapter D4-8, paragraph 3.1 and Appendix paragraph 3.1.

## **(1) Boeing (Douglas) DC8-63 and 63F**

### **1 Additional Requirements and Special Conditions**

#### **1.1 Flap Selector**

A gated flap selector is required in accordance with Issue 4 of BCAR, Chapter D4-8, paragraph 3.1 and Appendix paragraph 3.1.

## **(1) Boeing (McDonnell Douglas) DC-9 Series**

### **1 Additional Requirements and Special Conditions**

1.1 **Applicable** to McDonnell Douglas DC-9 Series 10 and 30.

#### **Comparator Warning Indicator**

Comparator warning indicators are required for the two main attitude indicators and the comparison is to be made at the instrument presentation. The independence of these systems shall not be violated by the comparator. Annunciation must be adjacent to each pilot's ADI.

## **(1) Boeing (McDonnell Douglas) DC-10 Series**

### **1 Additional Requirements and Special Conditions**

#### **1.1 Comparator Warning Indicator (Series 10 Only)\***

Comparator warning indicators are required for the two independent vertical gyro systems. The independence of these systems shall not be violated by the comparator.

\*Although not a UK Additional Requirement for the series 30 aircraft, it is included in the JAA commonly agreed Type Certification Basis, for both the series 10 and 30. Compliance with this requirement for the series 30 may therefore be required for import into other JAA countries.

**(1) Boeing (Autair, Hawker Siddeley Canada Ltd) Harvard all variants**

	<p>Civil Aviation Authority</p> <h1>AIRWORTHINESS DIRECTIVE</h1> <p>Number: <b>G-2013-0001</b></p> <p>Issue date: 09 September 2013</p>	
<p><b>This Airworthiness Directive (AD) is issued by the UK CAA as the National Aviation Authority ICAO Annex 8 Authority of State of Registry for the affected product(s).</b></p>		
<p><b>In accordance with Article 19 (1) of Air Navigation Order 2009, the following action required by this AD is mandatory for applicable aircraft registered in the United Kingdom. No person may operate an aircraft to which an AD applies except in accordance with the requirements of that AD unless otherwise agreed with the Authority of the State of Registry.</b></p>		
<p><b>Type Approval Holder's Name:</b></p> <ol style="list-style-type: none"> <li>Boeing</li> <li>Autair</li> <li>Hawker Siddeley Canada Limited</li> </ol>	<p><b>Type/Model Designation(s):</b></p> <p>Harvard all variants</p>	
<p><b>TCDS:</b></p>	<ol style="list-style-type: none"> <li>FAA Aircraft Specification No. A-2-575 previously held by NORTH AMERICAN and recently purchased by BOEING</li> <li>FAA Aircraft Specification No. AR-11 previously held by NOORDUYN AVIATION LTD.)</li> <li>Transport Canada Type Approval Data Sheet A-80</li> </ol>	
<p><b>Supersedure:</b></p>	<p>Not applicable</p>	
<p><b>ATA-57-00</b></p>	<p><b>Wing Spar Corrosion Inspection</b></p>	
<p><b>Manufacturer(s):</b></p>	<p>North American Canadian Car</p>	
<p><b>Applicability:</b></p>	<ol style="list-style-type: none"> <li>AT-6 (SNJ-2), AT-6A (SNJ-3), AT-6B, AT-6C (SNJ-4), AT-6D, (SNJ-5), AT-6F (SNJ-6), BC-1A, Harvard (Army AT-16), SNJ-7 and T-6G aeroplanes.</li> <li>Harvard (Army AT-16) aeroplanes.</li> <li>Harvard 2, Harvard 4 aeroplanes.</li> </ol> <p>All serial numbers, certificated in any category.</p>	
<p><b>Reason:</b></p>	<p>Severe corrosion has been detected in the lower main spar of a Harvard aircraft, reducing thickness of affected primary structural members to 20% of original. Structural strength is seriously diminished thereby and if flown in this state could lead to the loss of the aircraft.</p> <p>In the particular case, existence of corrosion was suspected because of signs of previous corrosion having been dressed out on the outer, more visible, part of the spar. The materials from which the spar caps are constructed are susceptible to intergranular or exfoliation corrosion.</p>	



<b>Reason Cont:</b>	<p>Although existing FAA ADs 2005-12-51 and 50-38-01 are intended to detect corrosion, they were not written to detect corrosion encountered in this event, and they do not require the removal of lower wing panels. Transport Canada's AD CF-2005-19 applied similar action to Canadian produced Harvard aircraft (Harvard 2 and Harvard 4).</p> <p>This directive imposes an additional deeper inspection involving removal of wing panels to expose the inner surfaces of the spars, together with time scales for repeat inspections.</p>	
<b>Effective Date:</b>	11 September 2013	
<b>Compliance/Action:</b>	<p>Accomplish the following at the next annual inspection after the effective date of this AD, unless already accomplished within the previous 12 months and thereafter every 5 years :-</p> <p>Carry out a detailed visual inspection for corrosion and replace any affected parts in accordance with referenced FAA/Transport Canada ADs and in addition:</p> <ul style="list-style-type: none"> <li>- Remove the lower wing access panels to fuel tank bays and inspect the upper and lower wing spar caps and visible structure for exfoliation/ intergranular corrosion.</li> <li>- Replace or repair affected parts in accordance with the appropriate maintenance/repair manual for the type.</li> </ul>	
<b>Reference Publications:</b>	<p><a href="#">FAA AD 2005-12-51</a> and <a href="#">FAA AD 50-38-01</a>          Transport Canada AD <a href="#">CF-2005-19</a>          Structural repair manual AN 01-60F-3</p>	
<b>Remarks:</b>	<ol style="list-style-type: none"> <li>1. This AD was posted on 30 July 2013 as PAD 1958 for consultation until 03 September 2013.</li> <li>2. Enquiries regarding this Airworthiness Directive should be referred to: Aircraft Certification Department, Civil Aviation Authority, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex RH6 0YR.</li> </ol>	
	Tel: +44 (0)1293 573726	Fax: +44 (0)1293 573976
	E-mail: <a href="mailto:Tony.Love@caa.co.uk">Tony.Love@caa.co.uk</a>	

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## **(1) Bombardier (De Havilland Canada) DHC-7**

### **1 Additional Requirements and Special Conditions**

#### **1.1 Comparator Warning Indicator**

Comparator warning indicators are required for the two vertical gyro systems and the comparison is to be made at the instrument presentation. The independence of these systems shall not be violated by the comparator. Annunciation must be adjacent to each pilot's ADI.

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## (1) Cessna Series Aircraft

### 1 Additional Requirements and Special Conditions

1.1 **Applicable** to 525 Citation Jet.

#### 1.1.1 Passenger Door Lock Warning

In order to comply with CS 23.783(e)(3), a warning of any unlocked condition of the door mechanism must be provided to the flight crew.

### 2 Additional Airworthiness Directives

#### 2.1 008-01-89 REV 2

**Applicable** to 300 and 400 series aircraft fitted with electrically operated landing gear.

**Compliance** is required at the next scheduled check from the effective date of this Directive which is 1 February 1989.

**Remove** and **inspect** bolts Part No. NAS 464P4-26 or AN4-25A (as applicable) and bushes Part No. S133-4P32 or 0841225-4 (as applicable) in the left and right main landing gear retraction linkage assemblies for evidence of corrosion, seizure and/or overloading in shear. Rectify as necessary, lubricate with grease and re-assemble.

Repeat inspection at intervals not exceeding 12 months or 600 flight hours whichever is the sooner.

Revision 2 became effective on 8 November 1999.

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## (2) De Havilland DHC-1 Chipmunk Series Aircraft

UK National Airworthiness Directives previously published in CAP 476 – Mandatory Aircraft Modifications and Inspections Summary

### NOTES:

1 The following list does not cover the conversion of the military mark T10 aircraft to the civil mark 22 or 22A. Application should be made to De Havilland Support Ltd, Building 213, Duxford Airfield CB2 4QR (Tel No. 01223 830090, Fax No. 01223 830085) for full details of the modification required to convert ex-military Chipmunk aircraft to the required civil standard.

2 Modification H210 and that part of H212 concerned with sealing the Horseshoe deflector plate were originally introduced to prevent fuel entering the fuselage via the access door in the fuselage underside.

As these modifications were not incorporated in RAF Chipmunk aircraft and experience has shown that fuel has not as a consequence entered the fuselage those modifications are no longer classified as mandatory. That part of modification H212 requiring sealing of the vent fairing has been incorporated in RAF Chipmunk aircraft and the mandatory classification still applies.

Similarly Modification H217 was not incorporated in RAF Chipmunk aircraft and as a result of satisfactory operational experience is no longer classified as mandatory.

CAA AD No: 2794 PRE 80

Associated Material: Mod No. H181

Description: Introduction of improved method of mounting fuel filter.

Applicability – Compliance – Requirement

See DH Technical News Sheet CT (C1) No. 111.

CAA AD No: 2795 PRE 80

Associated Material: Mod No. H188

Description: Introduction of fuel feed pipe in tungum in lieu of aluminium between the fuel cock and fuel filter.

Applicability – Compliance – Requirement

See DH Technical News Sheet CT (C1) No. 111.

CAA AD No: 2796 PRE 80

Associated Material: Mod No. H207

Description: Introduction of balanced type vents.

Applicability – Compliance – Requirement

See DH Technical News Sheet CT (C1) No. 117. Applicable also to Canadian built machines on the UK register.

CAA AD No: 2797 PRE 80  
Associated Material: Mod No. H209  
Description: Introduction of flexibly mounted aerial.  
Applicability – Compliance – Requirement  
See DH Technical News Sheet CT (C1) No. 106.

CAA AD No: 2798 PRE 80  
Associated Material: Mod No. H212 Part A  
Description: Sealing of the Vent fairing to prevent possible entry of fuel draining from vent pipes into fuselage after flying inverted.  
Applicability – Compliance – Requirement

-

CAA AD No: 2799 PRE 80  
Associated Material: Mod No. H231  
Description: Provision of Anti Spinning Strakes.  
Applicability – Compliance – Requirement  
Mandatory only if cleared for the Performance of Aerobatics. Applicable also to Canadian built machines on the UK register.

CAA AD No: 2800 PRE 80  
Associated Material: Mod No. H259  
Description: Cockpit Fire Extinguisher – To make provision for and introduce fire extinguisher 27N/299 in lieu of 27N/12 and bracket 27N/149 in lieu of 27N/13.  
Applicability – Compliance – Requirement  
Applicable to types 10, 20, 21, 22 and 22A.

CAA AD No: 2801 PRE 80  
Associated Material: Mod No. H323  
Description: Introduction of 'Aerobatics and Spins Prohibited' label in cockpits.  
Applicability – Compliance – Requirement  
See Technical News Sheet CT (C1) No. 171. Mandatory for aircraft which do not have modification H231 embodied.



CAA AD No: 2802 PRE 80

Associated Material: Mod No. H324

Description: Introduction of 'Spin Recovery' advisory label in cockpits.

Applicability – Compliance – Requirement

See Technical News Sheet CT (C1) No. 171. Mandatory for aircraft which have modification H231 embodied.

CAA AD No: 2803 PRE 80

Associated Material: TNS 131

Description: Engine throttle and mixture control rods.

Applicability – Compliance – Requirement

Compliance required as detailed in Technical News Sheet.

CAA AD No: 2804 PRE 80

Associated Material: TNS 138

Description: Mandatory Life Limitations.

Applicability – Compliance – Requirement

The limitations listed in the Technical News Sheet are mandatory for aircraft on the United Kingdom Register.

CAA AD No: 2805 PRE 80

Associated Material: TNS 154

Description: Fuselage assembly.

Applicability – Compliance – Requirement

Compliance required as detailed in Technical News Sheet.

CAA AD No: 2806 PRE 80

Associated Material: TNS 161

Description: Wing to fuselage attachment links.

Applicability – Compliance – Requirement

Compliance required as detailed in Technical News Sheet.

CAA AD No: 2807 PRE 80 REV 1

Associated Material: TNS 165

Description: English production Chipmunk – Wing assembly – Undercarriage mounting casting.

Applicability – Compliance – Requirement

Compliance required as detailed in Technical News Sheet.

CAA AD No: 007-09-85  
Associated Material: TNS 175  
Description: English production Chipmunk – Fuselage centre-section tie bar.  
Applicability – Compliance – Requirement  
Compliance required as detailed in Technical News Sheet.

CAA AD No: 009-09-85  
Associated Material: TNS 180  
Description: English production Chipmunk – Engine mounting frame attachment points in front fuselage.  
Applicability – Compliance – Requirement  
Compliance required as detailed in Technical News Sheet.

CAA AD No: 005-05-90  
Associated Material: TNS 183  
Description: English production Chipmunk – Fuselage rear News bulkhead.  
Applicability – Compliance – Requirement  
Compliance required as detailed in Technical Sheet.

CAA AD No: 021-08-91  
Associated Material: TNS 186  
Description: English production Chipmunk – Tail unit assembly.  
Applicability – Compliance – Requirement  
Compliance required as detailed in Technical News Sheet.

CAA AD No: 001-06-93  
Associated Material: TNS 189  
Description: Compliance required as detailed in Technical News Sheet.  
Applicability – Compliance – Requirement  
English production Chipmunk – Main undercarriage – Examination of shock absorber strut plunger tube.

CAA AD No: 003-08-94  
Associated Material: TNS 190  
Description: English production Chipmunk – Engine mounting frames – Examination of mounting frame joints.  
Applicability – Compliance – Requirement  
Compliance required as detailed in Technical News Sheet.

CAA AD No: 004-02-95

Associated Material: TNS 194

Description: English production Chipmunk – Main undercarriage – Examination of Piston tube.

Applicability – Compliance – Requirement

Compliance required as detailed in Technical News Sheet.

CAA AD No: 001-03-95

Associated Material: TNS 184

Description: English production Chipmunk – Flap operating system – Cable failure.

Applicability – Compliance – Requirement

Technical News Sheet re-classified as Information therefore AD is cancelled.

CAA AD No: 006-03-97

Associated Material: TNS 200

Description: Re-classification of existing modifications to Mandatory status.

Applicability – Compliance – Requirement

Compliance required as detailed in Technical News Sheet.

CAA AD No: 007-03-97

Associated Material: TNS 201

Description: Introduction of isolation switch to aircraft fitted with electric start.

Applicability – Compliance – Requirement

Compliance required as detailed in Technical News Sheet.


CAA AD No: 014-11-97

Associated Material: TNS 176

Description: English production Chipmunk– Airframe – Tail unit assembly.

Applicability – Compliance – Requirement

Compliance required as detailed in Technical News Sheet.

	<b>United Kingdom Civil Aviation Authority</b>		<b>AIRWORTHINESS DIRECTIVE</b>
			<b>AD No: G-2009-0001</b> Issue Date: 22 January 2009
This AD is issued by the UK CAA as the Primary Aviation Authority (ICAO Annex 8 Authority of State of Design) for the affected product(s).			
In accordance with Article 10 of the Air Navigation Order 2005 as amended the following action required by this Airworthiness Directive (AD) is mandatory for applicable aircraft registered in the United Kingdom. No person may operate an aircraft to which an AD applies except in accordance with the requirements of that AD unless otherwise agreed with the Authority of the State of Registry.			
<b>Type Approval Holder's Name:</b> de Havilland Support Limited		<b>Type/Model Designation(s):</b> DHC-1 Chipmunk (All Marks)	
<b>TCDS:</b>	Not applicable		
<b>Supersedure:</b>	Not applicable		
<b>ATA 27</b>	<b>Flap Operating System – Latch Plate – Bogus Parts</b>		
<b>Manufacturer(s):</b>	de Havilland Aircraft Co. Ltd		
<b>Applicability:</b>	English-built DHC-1 Chipmunk (all marks) fitted with flap operating system Latch Plate Part No. C1-CF-1489, or where the Part No. of the installed Latch Plate is unknown.		
<b>Reason:</b>	A report has been received of a flap operating system Latch Plate supplied under Part No. C1-CF-1489 failing in service. Investigation has shown that the part in question had not been manufactured in accordance with the applicable de Havilland drawing. This has resulted in rapid wear and failure of the part. To minimise the risk of uncommanded flap retraction, a one-off inspection has been introduced to detect any bogus Latch Plate that may have been installed, or is currently held in stores.		
<b>Effective Date:</b>	31 January 2009		
<b>Compliance/Action:</b>	Compliance required as detailed in Chipmunk TNS CT(C1) No. 208 at the next scheduled maintenance inspection after the affective date of this AD.		
<b>Reference Publications:</b>	de Havilland Support Limited Chipmunk Technical News Sheet CT(C1) No. 208 may be obtained from de Havilland Support Limited, Building 213, Duxford Airfield, Cambridgeshire, CB22 4QR, England. Telephone: +44 (0) 1223 830090 Fax: +44 (0) 1223 830085 Email: info@dhsupport.com		
<b>Remarks:</b>	1. This AD was posted as PAD 1891 for consultation on 18 December 2008 with a comment period until 17 January 2009. 2. Enquiries regarding this Airworthiness Directive should be referred to Aircraft Certification Department, Civil Aviation Authority, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom.		
	Tel: +44 (0)1293 573726	Fax: +44 (0)1293 573976	
	Email: <a href="mailto:Department.Certification@caa.co.uk">Department.Certification@caa.co.uk</a>		



Civil Aviation Authority

**AIRWORTHINESS DIRECTIVE**Number: **G-2012-0001**

Issue date: 15 March 2012



**This Airworthiness Directive (AD) is issued by the UK CAA as the National Aviation Authority (ICAO Annex 8 Authority of State of Design) for the affected product(s).**

**In accordance with Article 19 of the Air Navigation Order 2009 as amended, the following action required by this AD is mandatory for applicable aircraft registered in the United Kingdom. No person may operate an aircraft to which an AD applies except in accordance with the requirements of that AD unless otherwise agreed with the Authority of the State of Registry.**

Type Approval Holder's Name:	Type/Model Designation(s):
<b>de Havilland Support Ltd</b>	<b>DHC-1 Chipmunk aeroplanes</b>
<b>TCDS:</b>	DHC-1 Chipmunk Mk21                      AAN 1399 Iss 1 DHC-1 Chipmunk Mk22 + 22A              AAN 4383 Add4 Iss 6 DHC-1 Chipmunk Mk23                      AAN 10239
<b>Supersedure:</b>	AD 2804 Pre 80
<b>ATA 57</b>	<b>Wings – Recording and Consumption of Fatigue Lives</b>
<b>Manufacturer(s):</b>	de Havilland Aircraft Co Ltd and Oficinas Gerais De Material Aeronáutico (OGMA).
<b>Applicability:</b>	English and Portuguese built civil certificated DHC-1 Chipmunk aeroplanes – all Marks.
<b>Reason:</b>	<p>The fatigue lives of critical components and the requirements for the management and recording of fatigue consumption on DHC-1 Chipmunk aeroplanes are promulgated in TNS CT(C1) No 138. Recent experience has shown that in some cases Issue 5 of the TNS (subject to AD 2804 Pre 80) is being wrongly interpreted or ignored, leading to incorrect assessment and recording of fatigue life consumption. Experience has also shown that Role Factors are sometimes wrongly assessed and that a recommended replacement life for the wing attachment bolts was not adopted on the civil fleet.</p> <p>This AD has been raised to mandate compliance with the requirements stated in Issue 6 of TNS CT(C1) No 138. The TNS has been developed to introduce a suite of documents for recording and tracking fatigue consumption, and a replacement life is introduced for the mainplane attachment bolts.</p> <p>Incorrect recording of fatigue life could lead to structural failure and loss of life.</p>
<b>Effective Date:</b>	15 March 2012

<b>Compliance/Action:</b>	Initial compliance is required, as detailed in de Havilland Support Ltd Technical News Sheet (TNS) CT(C1) No. 138, Issue 6, dated 1 December 2011 (or later approved amendment), at the next Annual Check but not later than 31 March 2012 and thereafter annually.	
<b>Reference Publications:</b>	de Havilland Support Ltd Technical News Sheet Series CT(C1) No 138 Issue 6.	
<b>Remarks:</b>	<ol style="list-style-type: none"> <li>1. This AD was posted on 18 January 2012 as PAD 1945 for consultation until 8 February 2012.</li> <li>2. Enquiries regarding this Airworthiness Directive should be referred to: AES, Civil Aviation Authority, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex RH6 0YR.</li> </ol>	
	Tel: +44 (0)1293 573134	Fax: +44 (0)1293 573976
	E-mail: <a href="mailto:department.certification@caa.co.uk">department.certification@caa.co.uk</a>	
	<ol style="list-style-type: none"> <li>3. For any question concerning the technical content of the requirements in this AD, please contact: de Havilland Support Ltd Technical News Sheet TNS CT(C1) No 138, Issue 6, is available from de Havilland Support Ltd, Building 213, Duxford Airfield, Cambridge, CB22 4QR, Tel: +44 (0) 1223 830090 Fax: +44 (0) 1223 830085. E-mail: <a href="mailto:info@dhsupport.com">info@dhsupport.com</a>.</li> </ol>	



Civil Aviation Authority

**AIRWORTHINESS DIRECTIVE****Number: G-2013-0002**

Issue date: 02 October 2013



This Airworthiness Directive (AD) is issued by the UK CAA as the National Aviation Authority (ICAO Annex 8 Authority of State of Design) for the affected product(s).

In accordance with Article 19(1) of Air Navigation Order 2009, the following action required by this AD is mandatory for applicable aircraft registered in the United Kingdom. No person may operate an aircraft to which an AD applies except in accordance with the requirements of that AD unless otherwise agreed with the Authority of the State of Registry.

<b>Type Approval Holder's Name:</b> de Havilland Support Ltd	<b>Type/Model Designation(s):</b> DHC-1 Chipmunk – all marks
<b>AANs:</b>	DHC-1 Chipmunk Mk 21      AAN 1399, Issue 1 DHC-1 Chipmunk Mk 22 + 22A      AAN 4383, Addendum 4, Issue 6 DHC-1 Chipmunk Mk 23      AAN 5545, Issue 1
<b>Supersedure:</b>	Not Applicable
<b>ATA 55</b>	<b>Stabilisers – Tailplane Attachment Fittings – Examination for Stress Corrosion Cracking and Possible Misassembly</b>
<b>Manufacturer(s):</b>	de Havilland Aircraft Co and Oficinas Gerais de Material Aeronautico (OGMA)
<b>Applicability:</b>	English and Portuguese-built civil certificated DHC-1 Chipmunk aeroplanes – all marks
<b>Reason:</b>	<p>Cracking has been discovered in an early build standard of tailplane attachment fitting (potentially qty 4 per aircraft). The fitting is manufactured from aluminium alloy forging and the failure mode is still under investigation. Modification action dating back to the earliest years of the Chipmunk's service replaced this affected fitting with a similar item made from steel. These modifications were not mandated and it is now necessary to ensure the integrity of those aluminium alloy fittings which remain in service. However, the number of alloy fittings remaining in service is likely to be minimal in the UK, but potentially significant overseas.</p> <p>As part of its evaluation of the cracked bracket, DHSL has also identified the potential for misassembly of the fittings, leading to an inadvertent but small change of tailplane incidence. This situation might have some effect on the aircraft flight characteristics.</p> <p>DHSL have therefore issued Technical News Sheet (TNS) CT(C1) No 209, Issue 1, dated 01 August 2013, which requires a check for correct assembly of the fittings and introduces a repeat crack test of aluminium tailplane attachment fittings.</p>
<b>Effective Date:</b>	16 October 2013

Civil Aviation Authority Airworthiness Directive

SARG Airworthiness

<b>Compliance/Action:</b>	<p>Initial compliance is required as detailed in de Havilland Support Ltd TNS CT(C1) No 209, Issue 1, dated 01 August 2013 (or later approved amendment), within 10 flying hours of the effective date of this AD but not later than 30 November 2013.</p> <p>Aluminium alloy fittings are to be crack checked at 6 monthly intervals thereafter, per TNS Series CT(C1) No 209.</p>
<b>Reference Publications:</b>	de Havilland Support Ltd Technical News Sheet CT(C1) No 209, issue 1, dated 01 August 2013.
<b>Remarks:</b>	<ol style="list-style-type: none"> <li>1. This AD was posted on 30 August 2013 as PAD 1962 for consultation until 30 September 2013.</li> <li>2. Enquiries regarding this Airworthiness Directive should be referred to: Aircraft Certification Department, Civil Aviation Authority, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex RH6 0YR. +44 (0)1293 573726 Fax: +44 (0)1293 573976 E-mail: <a href="mailto:tony.love@caa.co.uk">tony.love@caa.co.uk</a></li> <li>3. For any question concerning the technical content of the requirements of this AD and for copies of the TNS, please contact: de Havilland Support Ltd, Building 213, Duxford Airfield, Cambridge, CB22 4QR. Tel: +44(0)1223 830090. Fax: +44(0)1223 830085 e-mail: <a href="mailto:info@dhsupport.com">info@dhsupport.com</a></li> </ol>



## **(2) De Havilland DH60, DH80, DH82, DH83, DH85, DH87, DH94 and Queen Bee Series Aircraft**

UK National Airworthiness Directives previously published in CAP 476 – Mandatory Aircraft Modifications and Inspections Summary

CAA AD No: 2731 PRE 80

Associated Material: Mod. No. 125 (See TNS 5)

Description: Introduction of aileron sprocket chain guides and reduction of floor stop slot length.

Applicability – Compliance – Requirement

Applicable to DH82 aircraft. Compliance required before issue or renewal of a Certificate of Airworthiness.

CAA AD No: 2732 PRE 80

Associated Material: Mod. No. 134 (See TNS 5)

Description: To seal the aileron gear box and improve inspection facilities.

Applicability – Compliance – Requirement

Applicable to DH82 aircraft. Compliance required before issue or renewal of a Certificate of Airworthiness.

CAA AD No: 2733 PRE 80

Associated Material: Mod. No. 138 (See TNS 5)

Description: To prevent splitting of aileron control box side members.

Applicability – Compliance – Requirement

Applicable to DH82 aircraft. Compliance required before issue or renewal of a Certificate of Airworthiness.

CAA AD No: 2734 PRE 80

Associated Material: TNS 19

Description: Inspection of pins attaching universal joint to undercarriage compression leg.

Applicability – Compliance – Requirement

Applicable to DH82 aircraft. Should have been complied with by 15 April 1962.

CAA AD No: 002-04-83 Revision 1

Associated Material:

–

Description: Installation of anti-spinning strakes.

Applicability – Compliance – Requirement

Applicable to DH82 aircraft.

Effective from the issue date of this Directive revision which is 12 April 2001.

1 Aircraft fitted with anti-spin strakes are cleared for normal erect spinning and aerobatics in all C of A Categories.

2 Aircraft not fitted with strakes:

On initial issue of C of A or if strakes are removed, aerobatics and spinning not permitted unless a check flight has been completed by CAA Flight Department. In addition, if the aircraft is subject to a major rebuild e.g. wing change, then a further C of A Test Flight may be required.

Note: This revision supersedes and cancels Airworthiness Information Leaflet AD/IL/0139.

CAA AD No: 002-10-97

Associated Material: TNS 28

Description: Datum bolts.

Applicability – Compliance – Requirement

Applicable to DH60 and DH82 aircraft. Compliance required as detailed in Technical News Sheet.

CAA AD No: 006-10-97

Associated Material: TNS 29

Description: Fuselage – Lateral tie rods – Fracture at wing joint fittings.

Applicability – Compliance – Requirement

Applicable to DH60, DH82, DH82A, Queen Bee and DH83 Moth aircraft. Compliance required as detailed in Technical News Sheet.

CAA AD No: 007-03-99

Associated Material: TNS 33

Description: Cockpit safety harness installation – Integrity and liffing.

Applicability – Compliance – Requirement

Applicable to DH60, DH60G, DH60M, DH60X, DH82, DH82A, Queen Bee, DH83 and DH94 series aircraft. Compliance required as detailed in Technical News Sheet.

CAA AD No: 008-03-99

Associated Material: TNS 34

Description: Introduction of locking device for fuel on/off cock operating lever.

Applicability – Compliance – Requirement

Applicable to DH82, DH82A Tiger Moth and Queen Bee aircraft. Compliance required as detailed in Technical News Sheet.

CAA AD No: 002-10-2000

Associated Material: TNS 37

Description: Introduction of increased strength seat harness transverse cable.

Applicability – Compliance – Requirement

Applicable to DH60 all variants, DH82, DH82A and Queen Bee aircraft. Compliance required as detailed in Technical News Sheet.



Civil Aviation Authority

# EMERGENCY AIRWORTHINESS DIRECTIVE

**Number: G-2014-0002-E**

Issue date: 12 September 2014

This Airworthiness Directive (AD) is issued by the UK CAA as the National Aviation Authority (ICAO Annex 8 Authority of State of Design for the affected product(s).

In accordance with ANO Articles 19 and/or 21 the following action required by this AD is mandatory for applicable aircraft registered in the United Kingdom. No person may operate an aircraft to which an AD applies except in accordance with the requirements of that AD unless otherwise agreed with the Authority of the State of Registry.

Type Approval Holder's Name: <b>Air Stratus Ltd</b>	Type/Model Designation(s): <b>DH60</b>
<b>TCDS:</b>	n/a – AAN 27543 Issue 2 (or later) refers to DH 60 Moth
<b>Supersedure:</b>	Not Applicable
<b>ATA 55</b>	<b>Fuselage Main Structures – Lower Fuselage Tie-Rods</b>
<b>Manufacturer(s):</b>	<b>de Havilland, Morris Motors and others</b>
<b>Applicability:</b>	<b>DH60 Gipsy Moth aircraft and all variants and replicas</b>
<b>Reason:</b>	<p>Examination of DH82 aircraft which crashed in Australia indicated that both of the aircraft's fuselage lateral tie rods, which join the lower wings to the fuselage, had fractured in the threaded section near the join with the left wing (at areas of significant pre-existing fatigue cracking). The failed tie rods were manufactured under an Australian Parts Manufacturing Approval. Tie rods were manufactured under this approval with similar process for the subject aircraft. (Part number is JRA-776-H for DH60 tie rods; part number is JRA-776-2 for nuts.)</p> <p>Some aircraft on the UK register and other fleets may have embodied such PMA parts as alternative means of compliance, and this AD is to cover the intent of CASA Australia AD/DH 60/9 removing any unacceptable tie-rods and nuts from service.</p>
<b>Effective Date:</b>	12 September 2014

Civil Aviation Authority Airworthiness Directive	SARG Airworthiness
<b>Compliance/Action:</b>	<p>With immediate effect from the effective date of this AD, the aircraft is restricted to non-aerobatic flight until the provenance of the tie rods has been checked.</p> <p>Within 10 flying hours from the effective date of this AD, check the provenance of the tie rods:</p> <ul style="list-style-type: none"> <li>- If tie-rods are of de Havilland manufacture* in accordance with TNS 29 and CAA AD 006-10-97, no further action is necessary.</li> <li>- Remove and destroy all fuselage lateral tie rods and attaching nuts produced by J&amp;R Aerospace and those of unknown provenance, and replace in accordance with Technical News Sheet Series CT(MOTH) No 29 available from de Havilland Support Limited UK (DHSL).</li> <li>- For other tie-rods not covered above, check life is within that approved by local Airworthiness Authority</li> </ul> <p>* This means one of the following:</p> <ol style="list-style-type: none"> <li>a) tie rods and attaching nuts that are the original equipment manufacturer (OEM) tie rods manufactured by DH, Morris Motors or DH (Australia) provided they are within their installed calendar or safe life of 2,000 flying hours or 18 years, or</li> <li>b) manufactured by Bruntons Aero Products Ltd of the United Kingdom (UK). or</li> <li>c) produced by HG Aerospace Engineering Ltd of the UK.</li> </ol>
<b>Reference Publications:</b>	<p>British Aerospace Technical News Sheet Series CT(MOTH) No 29 Issue 3 (or later).</p> <p>Australian CASA AD/DH 60/9 Amdt 1 relating to DH60 Moth aircraft.</p>
<b>Remarks:</b>	<ol style="list-style-type: none"> <li>1. This AD was not posted for consultation because of the urgency of the requirement.</li> <li>2. Enquiries regarding this Airworthiness Directive should be referred to: General Aviation Unit, Civil Aviation Authority, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex RH6 0YR. Tel: +44 (0)1293 573988. E-mail: <a href="mailto:ga@caa.co.uk">ga@caa.co.uk</a></li> <li>3. For any question concerning the technical content of the requirements of this AD, please contact: Air Stratus Ltd. Oaksey Park Airfield, Oaksey, Malmesbury, Wiltshire. SN16 9SD UK Tel: +44 (0)1666 575111 mob +44 (0)7799 420875 e-mail: <a href="mailto:john@johneagles.wanadoo.co.uk">john@johneagles.wanadoo.co.uk</a></li> </ol> <p>NB Copies of TNS CT(MOTH) No 29 are also available from de Havilland Support Ltd. At de Havilland Support Ltd, Building 213, Duxford Airfield, Cambridge, CB22 4QR. Tel: +44(0)-1223-830090. FAX: +44(0)-1223-830085. e-mail: <a href="mailto:info@dhsupport.com">info@dhsupport.com</a></p>



Civil Aviation Authority

# EMERGENCY AIRWORTHINESS DIRECTIVE



Number: G-2014-0001-E


Issue date: 21 March 2014

This Airworthiness Directive (AD) is issued by the UK CAA as the National Aviation Authority (ICAO Annex 8 Authority of State of Design) for the affected product(s).

In accordance with Articles 19 (1) and 22(1) of The Air Navigation Order 2009, the following action required by this AD is mandatory for applicable aircraft registered in the United Kingdom. No person may operate an aircraft to which an AD applies except in accordance with the requirements of that AD unless otherwise agreed with the Authority of the State of Registry.

Type Approval Holder's Name: <b>de Havilland Support Ltd</b>	Type/Model Designation(s): <b>DH82</b>
<b>TCDS:</b>	n/a – AAN 22556 Issue 9 (or later) refers
<b>Supersedure:</b>	Not Applicable
<b>ATA 55</b>	<b>Fuselage Main Structures – Lower Fuselage Tie-Rods</b>
<b>Manufacturer(s):</b>	de Havilland, Morris Motors and others
<b>Applicability:</b>	All DH82 Tiger Moth, DH82A Tiger Moth and DH82B Queen Bee aeroplanes, all variants and replicas excluding Thruxton Jackaroo (DH82A Modified)
<b>Reason:</b>	<p>Preliminary examination of an aircraft which crashed in Australia indicated that both of the aircraft's fuselage lateral tie rods, which join the lower wings to the fuselage, had fractured in the threaded section near the join with the left wing (at areas of significant pre-existing fatigue cracking). The failed tie rods, part number JRA-776-1, were manufactured under an Australian Parts Manufacturing Approval.</p> <p>Some aircraft on the UK Register and other fleets may have embodied such PMA parts as alternative means of compliance, and this AD is to cover the intent of CASA Australia PAD/DH 82/17 removing any unacceptable tie-rods and nuts from service.</p>
<b>Effective Date:</b>	21 March 2014

Civil Aviation Authority Airworthiness Directive	SARG Airworthiness
<p><b>Compliance/Action:</b></p>	<p>With immediate effect from the effective date of this AD, the aircraft is restricted to non-aerobatic flight until the provenance of the tie rods has been checked.</p> <p>Within 10 flying hours of the effective date of this AD check the provenance of the tie rods:</p> <ul style="list-style-type: none"> <li>- If tie-rods are of de Havilland manufacture* in accordance with TNS 29 and CAA AD 006-10-97, no further action is necessary.</li> <li>- Remove and destroy all fuselage lateral tie rods and attaching nuts produced by J&amp;R Aerospace and those of unknown provenance, and replace in accordance with Technical News Sheet Series CT(MOTH) No 29 available from de Havilland Support Limited UK (DHSL).</li> <li>- For other tie-rods not covered above, check life is within that approved by local Airworthiness Authority</li> </ul> <p>* This means one of the following:</p> <ol style="list-style-type: none"> <li>a) Tie rods that are identified by the Part Number H 37869A marked on the rod in ink, with DHSL engraved on one exposed end of the rod and a serial number engraved on the other end. The acceptable Part Number for the tie rod nuts is H 37870, or</li> <li>b) Tie rods and attaching nuts that are the original equipment manufacturer (OEM) tie rods manufactured by DH, Morris Motors or DH (Australia) provided they are within their installed calendar or safe life of 2,000 flying hours or 18 years, or</li> <li>c) Manufactured by Bruntons Aero Products Ltd of the United Kingdom (UK) or</li> <li>d) Produced by HG Aerospace Engineering Ltd of the UK.</li> </ol>
<p><b>Ref. Publications:</b></p>	<p>British Aerospace Technical News Sheet Series CT(MOTH) No 29 Issue 3 (or later).</p>
<p><b>Remarks:</b></p>	<ol style="list-style-type: none"> <li>1. This AD was not posted for consultation because of the urgency of the requirement.</li> <li>2. Enquiries regarding this Airworthiness Directive should be referred to: Aircraft Certification Department, Civil Aviation Authority, Safety and Airspace Regulation Group, Aviation House, Gatwick Airport South, West Sussex RH6 0YR. Tel: +44 (0)1293 573726 Email: <a href="mailto:tony.love@caa.co.uk">tony.love@caa.co.uk</a></li> <li>3. For any question concerning the technical content of the requirements of this AD, please contact: de Havilland Support Ltd, Building 213, Duxford Airfield, Cambridge, CB22 4QR. Tel: +44(0)-1223-830090. FAX: +44(0)-1223-830085. e-mail: <a href="mailto:info@dhsupport.com">info@dhsupport.com</a> Copies of TNS CT(MOTH) No 29 are available from de Havilland Support Ltd.</li> </ol>

	<b>United Kingdom Civil Aviation Authority</b>	<b>AIRWORTHINESS DIRECTIVE</b>	
		<b>AD No: G-2009-0002</b> <b>Issue Date: 24 April 2009</b>	
This AD is issued by the UK CAA as the Primary Aviation Authority (ICAO Annex 8 Authority of State of Design) for the affected product(s).			
In accordance with Article 10 of the Air Navigation Order 2005 as amended the following action required by this Airworthiness Directive (AD) is mandatory for applicable aircraft registered in the United Kingdom. No person may operate an aircraft to which an AD applies except in accordance with the requirements of that AD unless otherwise agreed with the Authority of the State of Registry.			
Type Approval Holder's Name: <b>de Havilland Support Limited</b>		Type/Model Designation(s): <b>Thrupton Jackaroo (Modified DH82A)</b>	
<b>TCDS:</b>	N/A		
<b>Supersedure:</b>	None		
<b>ATA 12-00</b>	<b>SERVICING - GENERAL</b>		
<b>Manufacturer(s):</b>	Jackaroo Aircraft Limited.		
<b>Applicability:</b>	Thrupton Jackaroo (Modified DH82A) aircraft		
<b>Reason:</b>	To clarify mandatory modification and inspection requirements.		
<b>Effective Date:</b>	1 May 2009		
<b>Compliance/Action:</b>	Within 3 months from the effective date of this AD, Technical News Sheets common to the DH82A Tiger Moth and the Thrupton Jackaroo, and which the CAA has classified as Mandatory for application to the DH82A Tiger Moth, are also to be applied as Mandatory to the Thrupton Jackaroo.		
<b>Reference Publications:</b>	de Havilland Support Limited Technical News Sheet CT(MOTH) No 4 lists the TNS which are common to the DH82A Tiger Moth and the Thrupton Jackaroo. It may be obtained from de Havilland Support Limited, Building 213, Duxford Airfield, Cambridgeshire, CB22 4QR, England. Telephone: +44 (0) 1223 830090 Fax: +44 (0) 1223 830085 Email: info@dhsupport.com		
<b>Remarks:</b>	1. This AD was posted as PAD 1896 for consultation on 24 March 2009 with a comment period until 22 April 2009.		
	2. In the future, new ADs affecting the Jackaroo as well as Tiger Moth will be shown by appropriate reference in the applicability section.		
	3. Enquiries regarding this Airworthiness Directive should be referred to Aircraft Certification Department, Civil Aviation Authority, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom.		
	Tel: +44 (0)1293 573726		Fax: +44 (0)1293 573976
	Email: department.certification@caa.co.uk		





Civil Aviation Authority

# EMERGENCY AIRWORTHINESS DIRECTIVE



Number: G-2014-0003-E

Issue date: 12 September 2014

This Airworthiness Directive (AD) is issued by the UK CAA as the National Aviation Authority (ICAO Annex 8 Authority of State of Design for the affected product(s).

In accordance with ANO Articles 19 and/or 21 the following action required by this AD is mandatory for applicable aircraft registered in the United Kingdom. No person may operate an aircraft to which an AD applies except in accordance with the requirements of that AD unless otherwise agreed with the Authority of the State of Registry.

Type Approval Holder's Name: <b>Air Stratus Ltd</b>	Type/Model Designation(s): <b>DH83</b>
TCDS:	n/a – AAN 24804 Issue 4 (or later) refers to DH83 Fox Moth
Supersedeure:	Not Applicable
ATA 55	<b>Fuselage Main Structures – Lower Fuselage Tie-Rods</b>
Manufacturer(s):	<b>de Havilland, Morris Motors and others</b>
Applicability:	<b>DH83 Fox Moth aircraft and all variants and replicas</b>
Reason:	<p>Examination of DH82 aircraft which crashed in Australia indicated that both of the aircraft's fuselage lateral tie rods, which join the lower wings to the fuselage, had fractured in the threaded section near the join with the left wing (at areas of significant pre-existing fatigue cracking). The failed tie rods were manufactured under an Australian Parts Manufacturing Approval. Tie rods were manufactured under this approval with similar process for the subject aircraft. (Part number is JRA-776-3 for DH83 tie rods; part number is JRA-776-2 for nuts.)</p> <p>Some aircraft on the UK register and other fleets may have embodied such PMA parts as alternative means of compliance, and this AD is to cover the intent of CASA Australia AD/DH 83/5 removing any unacceptable tie-rods and nuts from service.</p>
Effective Date:	12 September 2014

Civil Aviation Authority Airworthiness Directive	SARG Airworthiness
<b>Compliance/Action:</b>	<p>With immediate effect from the effective date of this AD, the aircraft is restricted to non-aerobatic flight until the provenance of the tie rods has been checked.</p> <p>Within 10 flying hours from the effective date of this AD, check the provenance of the tie rods:</p> <ul style="list-style-type: none"> <li>- If tie-rods are of de Havilland manufacture* in accordance with TNS 29 and CAA AD 006-10-97, no further action is necessary.</li> <li>- Remove and destroy all fuselage lateral tie rods and attaching nuts produced by J&amp;R Aerospace and those of unknown provenance, and replace in accordance with Technical News Sheet Series CT(MOTH) No 29 available from de Havilland Support Limited UK (DHSL).</li> <li>- For other tie-rods not covered above, check life is within that approved by local Airworthiness Authority</li> </ul> <p>* This means one of the following:</p> <ol style="list-style-type: none"> <li>a) tie rods and attaching nuts that are the original equipment manufacturer (OEM) tie rods manufactured by DH, Morris Motors or DH (Australia) provided they are within their installed calendar or safe life of 2,000 flying hours or 18 years, or</li> <li>b) manufactured by Bruntons Aero Products Ltd of the United Kingdom (UK). or</li> <li>c) produced by HG Aerospace Engineering Ltd of the UK.</li> </ol>
<b>Reference Publications:</b>	<p>British Aerospace Technical News Sheet Series CT(MOTH) No 29 Issue 3 (or later).</p> <p>Australian CASA AD/DH 60/9 Amdt 1 relating to DH60 Moth aircraft.</p>
<b>Remarks:</b>	<ol style="list-style-type: none"> <li>1. This AD was not posted for consultation because of the urgency of the requirement.</li> <li>2. Enquiries regarding this Airworthiness Directive should be referred to: General Aviation Unit, Civil Aviation Authority, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex RH6 0YR. Tel: +44 (0)1293 573988. E-mail: <a href="mailto:ga@caa.co.uk">ga@caa.co.uk</a></li> <li>3. For any question concerning the technical content of the requirements of this AD, please contact: Air Stratus Ltd. Oaksey Park Airfield, Oaksey, Malmesbury, Wiltshire. SN16 9SD UK Tel: +44 (0)1666 575111 mob +44 (0)7799 420875 e-mail: <a href="mailto:john@johneagles.wanadoo.co.uk">john@johneagles.wanadoo.co.uk</a></li> </ol> <p>NB Copies of TNS CT(MOTH) No 29 are also available from de Havilland Support Ltd. At de Havilland Support Ltd, Building 213, Duxford Airfield, Cambridge, CB22 4QR. Tel: +44(0)-1223-830090. FAX: +44(0)-1223-830085. e-mail: <a href="mailto:info@dhsupport.com">info@dhsupport.com</a></p>

## (2) De Havilland DH89 Rapide Series Aircraft

UK National Airworthiness Directives previously published in CAP 476 – Mandatory Aircraft Modifications and Inspections Summary

CAA AD No: 2735 PRE 80

Associated Material: Rapide Mod. 1(Dominie Mod. 65)

Description: Introduction of a screen on the windscreen wiper to eliminate compass interference.

Applicability – Compliance – Requirement

As an alternative to this modification a cockpit notice must be fitted, restricting the use of the wiper to the period during take off and landing.

CAA AD No: 2736 PRE 80

Associated Material: Rapide Mod. 2(Dominie Mod. 63)

Description: Anti-vibration strut on mainplane bracing –improved attachment of clip.

Applicability – Compliance – Requirement

-

CAA AD No: 2737 PRE 80

Associated Material: Rapide Mod. 5 (Dominie Mod. 69)

Description: Introduction of fuel drain pipe from induction manifold.

Applicability – Compliance – Requirement

To be embodied with Gipsy Mod. No. 1152.

CAA AD No: 2738 PRE 80

Associated Material: Rapide Mod. 9

Description: Introduction of Battery Master Switch.

Applicability – Compliance – Requirement

BEA Mod. E-5-4 is an acceptable alternative.

CAA AD No: 2739 PRE 80

Associated Material: Rapide Mod. 10

Description: Introduction of fuse in negative lead to radio.

Applicability – Compliance – Requirement

-

CAA AD No: 2740 PRE 80

Associated Material: Rapide Mod. 15

Description: To introduce bracing for rear diagonal struts and strengthened undercarriage radius rods.

Applicability – Compliance – Requirement

Applicable immediately on Rapide Series 4 or Rapide Series 5 aircraft.

## (2) De Havilland DH104 Dove Series Aircraft

*UK National Airworthiness Directives previously published in CAP 476 – Mandatory Aircraft Modifications and Inspections Summary*

**CAA AD No:** 2367 PRE 80

**Associated Material:** 253

**Description:** *Electrical Power* – To introduce two pole wiring for lights and immersed fuel pumps.

### **Applicability – Compliance – Requirement**

Applicable to Series 1 and 2 aircraft. Compliance required as detailed in modification leaflet.

**CAA AD No:** 2368 PRE 80

**Associated Material:** 381

**Description:** *Fire Protection* – Re-positioning of crash operated inertia switch.

### **Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in modification leaflet.

NOTE: The installation covered by modification 862 and 1090 are acceptable alternatives.

**CAA AD No:** 2369 PRE 80

**Associated Material:** 524

**Description:** *Power Plant* – To introduce mild steel engine mounting pick-up fittings in lieu of alclad, and tighter limits in bearing hole.

### **Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in modification leaflet.

**CAA AD No:** 2370 PRE 80

**Associated Material:** 538

**Description:** *Fuselage* – To introduce strengthened bottom boom for centre section spar.

### **Applicability – Compliance – Requirement**

Applicable to Series 1 and 2 aircraft. Compliance required as detailed in modification leaflet.

**CAA AD No:** 2371 PRE 80

**Associated Material:** 574

**Description:** *Fuselage* – To introduce ice shield for ADF and VHF whip aerials.

### **Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in modification leaflet.

**CAA AD No:** 2372 PRE 80

**Associated Material:** 651

**Description:** *Fuselage*–To introduce flexibly mounted VHF whip aerials when mounted on the canopy.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in modification leaflet.

**CAA AD No:** 2373 PRE 80

**Associated Material:** 652

**Description:** *Fuselage*–To introduce flexibly mounted VHF whip aerial when mounted on the cabin roof.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in modification leaflet.

**CAA AD No:** 2374 PRE 80

**Associated Material:** 653

**Description:** *Fuselage*–To introduce flexibly mounted ADF whip aerial when mounted on the canopy.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in modification leaflet.

**CAA AD No:** 2375 PRE 80

**Associated Material:** 655

**Description:** *Electrical Power* – To provide supply for fire extinguisher circuit from battery side of ground-flight switch.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in modification leaflet.

**CAA AD No:** 2376 PRE 80

**Associated Material:** 686

**Description:** *Wings*–To introduce new wing root attachment bolts and shims in wing root joints.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in modification leaflet.

**CAA AD No:** 2377 PRE 80

**Associated Material:** 753

**Description:** *Fuselage*–To introduce smaller washer on flexibly mounted whip aerals.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in modification leaflet.

**CAA AD No:** 2378 PRE 80

**Associated Material:** 765

**Description:** *Flight Controls* –To introduce H.T. steel pins for locking stud on aileron differential pulley spindle.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in modification leaflet.

**CAA AD No:** 2379 PRE 80

**Associated Material:** 779

**Description:** *Fuselage*–To introduce H.T. steel bottom boom for centre section spar.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in modification leaflet.

**CAA AD No:** 2380 PRE 80

**Associated Material:** 780

**Description:** *Wings*–To introduce H.T steel bottom boom section in wing main spar.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in modification leaflet.

**CAA AD No:** 2381 PRE 80

**Associated Material:** 786

**Description:** *Fuselage*–To introduce improvements to whip aerial installation.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft with Modifications 651 or 652 or 653 embodied. Compliance required as detailed in modification leaflet.

**CAA AD No:** 2382 PRE 80

**Associated Material:** 868

**Description:** *Landing Gear*–Introduction of revised locking lever on main undercarriage.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in modification leaflet.

**CAA AD No:** 2383 PRE 80

**Associated Material:** 879

**Description:** *Instruments* – Oil pressure and temperature gauges – To change attitude in instrument panel.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in modification leaflet.

NOTE: Not required when Modification 990 or 1231 are embodied.

**CAA AD No:** 2384 PRE 80

**Associated Material:** 967

**Description:** *Flight Controls* – Aileron lever – To introduce a forging in lieu of a casting.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in modification leaflet. TNS 151 refers.

**CAA AD No:** 2385 PRE 80

**Associated Material:** 978

**Description:** *Landing Gear* – Introduction of revised locking lever and jack attachment lever on nose undercarriage.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in modification leaflet.

**CAA AD No:** 2386 PRE 80

**Associated Material:** 982

**Description:** *Flight Controls* – Introduction of modified locking to flap datum hinge.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in modification leaflet.

**CAA AD No:** 2387 PRE 80

**Associated Material:** 1067

**Description:** *Fuselage* – Introduction of Aluminium Copper Alloy DTD 298 Castings in lieu of Magnesium Alloy DTD 289.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in modification leaflet.



**CAA AD No:** 2388 PRE 80

**Associated Material:** 1260

**Description:** *Auto-Pilot* – To introduce modified elevator servo Part No. 19355–0 incorporating Sperry pressure relief valve Part No. 19287–05.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft fitted with AL.1A or AL.3 *Auto-Pilot*. Compliance required as detailed in modification leaflet.

**CAA AD No:** 2389 PRE 80

**Associated Material:** 1261

**Description:** *Auto-Pilot* – To introduce modified elevator servo Part No. 19356–0 incorporating Sperry pressure relief valve Part No. 19287–05.

**Applicability – Compliance – Requirement**

Applicable to Series 1, 2, 5, 6, 7 and 8 aircraft fitted with AL30 *Auto-Pilot*. Compliance required as detailed in modification leaflet.

**CAA AD No:** 2390 PRE 80

**Associated Material:** 1298

**Description:** *Wings*–To introduce improved protective treatment on wing lower main joint.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in modification leaflet.

**CAA AD No:** 2391 PRE 80

**Associated Material:** 1723

**Description:** *Landing Gear* – To introduce adjusting screw Part No. 4U567 in lieu of adjusting screw Part No. 4U493 on nose and main undercarriage radius rod assemblies.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in modification leaflet. TNS 231 refers.

**CAA AD No:** 2392 PRE 80

**Associated Material:** TNS 119

**Description:** *Fuselage* – Centre section lower spar boom and wing lower spar boom – Safe lives.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in TNS.

**CAA AD No:** 2393 PRE 80

**Associated Material:** TNS 125

**Description:** *Wings* – Inspection of main spar booms.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in TNS.

**CAA AD No:** 2394 PRE 80

**Associated Material:** TNS 134

**Description:** *Wings* – Inspection of main spar joints.

**Applicability – Compliance – Requirement**

Applicable to all aircraft up to and including Serial No. 04465 which have not had Modification 870 embodied. Compliance required as detailed in TNS.

**CAA AD No:** 2395 PRE 80

**Associated Material:** TNS 158

**Description:** *Engine Oil* – Recalibration of oil tank dipstick.

**Applicability – Compliance – Requirement**

Applicable to aircraft fitted with an oil tank on which Modification PP173 is embodied. Compliance required as detailed in TNS.

**CAA AD No:** 2396 PRE 80

**Associated Material:** TNS 163

**Description:** *Fire Protection* – Inspection of power plant fire extinguisher system spray pipes.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in TSN.

**CAA AD No:** 2397 PRE 80

**Associated Material:** TNS 168

**Description:** *Wings* – Inspection of wing to fuselage lower main root joint.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft fitted Gipsy Queen 70 Series engines. Compliance required as detailed in TNS.

**CAA AD No:** 2398 PRE 80

**Associated Material:** TNS 171

**Description:** *Flight Controls* – Inspection of aileron cables in the control column.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in TNS.

**CAA AD No:** 2399 PRE 80

**Associated Material:** TNS 178

**Description:** *Wings* – Inspection of lower root joint fittings.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in TNS.

**CAA AD No:** 2400 PRE 80

**Associated Material:** TNS 186

**Description:** *Electrical Power* – Inspection of main earth post.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in TNS.

**CAA AD No:** 2401 PRE 80

**Associated Material:** TNS 187

**Description:** *Flight Controls* – Inspection of elevator and rudder trim tab connecting rod assembly eye ends.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in TNS.

**CAA AD No:** 2402 PRE 80

**Associated Material:** TNS 190

**Description:** *Power Plant* – Inspection of engine mounting frames.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in TNS.

**CAA AD No:** 2403 PRE 80

**Associated Material:** TNS 195

**Description:** *Fire Protection* – Inspection of fire extinguisher system air intake nozzle.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in TNS.

**CAA AD No:** 2404 PRE 80

**Associated Material:** TNS 196

**Description:** *Fire Protection* – Inspection of engine fire extinguisher system.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in TNS.

**CAA AD No:** 2405 PRE 80

**Associated Material:** TNS 214

**Description:** *Pneumatic* – Inspection of emergency air bottles.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft and spare bottles held in stores. Compliance required as detailed in TNS.

**CAA AD No:** 2406 PRE 80

**Associated Material:** TNS 216

**Description:** *Flight Controls* – Inspection of flap datum hinge assembly.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in TNS.

**CAA AD No:** 2407 PRE 80

**Associated Material:** TNS 217

**Description:** *Wings* – Inspection of lower front main attachment fittings.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in TNS.

**CAA AD No:** 2408 PRE 80

**Associated Material:** TNS 218

**Description:** *Flight Controls* – Inspection of flap datum hinge assembly.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in TNS.

**CAA AD No:** 2409 PRE 80

**Associated Material:** TNS 219

**Description:** *Flight Controls* – Inspection of rudder control pedal reversal lever.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in TNS.

**CAA AD No:** 2410 PRE 80

**Associated Material:** TNS 222

**Description:** *Doors* – Inspection of emergency escape hatches.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in TNS.

**CAA AD No:** 2411 PRE 80

**Associated Material:** TNS 223

**Description:** *Pneumatic* – Replacement of main air reservoir assemblies.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in TNS.

**CAA AD No:** 2412 PRE 80

**Associated Material:** TNS 226

**Description:** *Nacelles/Pylons* – Inspection of engine mounting pick-up positions.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in TNS.

**CAA AD No:** 2413 PRE 80

**Associated Material:** TNS 227

**Description:** *Electrical Power* – Loss of generated power.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in TNS.

NOTE: Compliance is accepted as providing an equivalent level of safety to the requirements of Airworthiness Notice No. 82. (Now CAP 747, Section 2, Part 3, GR No.4.)

**CAA AD No:** 2414 PRE 80

**Associated Material:** TNS 228

**Description:** *Power Plant* – Inspection of left-hand engine mounting frame.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in TNS.

**CAA AD No:** 2415 PRE 80

**Associated Material:** TNS 229

**Description:** *Power Plant* – Inspection of engine mounting stay struts.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in TNS.

**CAAAD No:** 2416 PRE 80

**Associated Material:** TNS 230

**Description:** *Fuselage* – Inspection of centre section spar lower boom drag bracing member.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in TNS.

**CAAAD No:** 2417 PRE 80

**Associated Material:** TNS 232

**Description:** *Landing Gear* – Inspection of nose undercarriage inner casing.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in TNS.

**CAAAD No:** 2418 PRE 80

**Associated Material:** TNS 237

**Description:** *Fuselage* – Inspection of centre section main spar top boom.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in TNS.

**CAAAD No:** 2419 PRE 80

**Associated Material:** TNS 238

**Description:** *Fuselage* – Inspection of centre section main spar top boom (Pre-Modification 779).

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft (Pre-Modification 779). Compliance required as detailed in TNS.

**CAAAD No:** 2420 PRE 80

**Associated Material:** Associated Material:TNS 240

**Description:** *Structure* – Aircraft life extension.

**Applicability – Compliance – Requirement**

Applicable to Series 1 to Series 8 aircraft and their variants. Compliance required as detailed in TNS.

**CAA AD No:** 2421 PRE 80

**Associated Material:** TNS 244

**Description:** *Power Plant* – Inspection of engine mounting frame front engine support spigots.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in TNS.

**CAA AD No:** 008–05–87

**Associated Material:** TNS 245

**Description:** *Wings* – Aileron mass balance weight assemblies – Internal corrosion.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in TNS.

**CAA AD No:** 002–11–88

**Associated Material:** TNS 246

**Description:** *Flight Controls* – Flap jack to flap attachment pin.

**Applicability – Compliance – Requirement**

Applicable to all Series aircraft. Compliance required as detailed in TNS.

## (2) DH 104 Riley Dove Series 1 and 2

*UK National Airworthiness Directives previously published in CAP 476 – Mandatory Aircraft Modifications and Inspections Summary*

**CAA AD No:** 2741 PRE 80

**Associated Material:** Riley Aeronautics Corporation Service Letter No. 65–3

**Description:** The *Pneumatic* compressor drives must be to the standards of Installation Drawing R.00459.

### **Applicability – Compliance – Requirement**

Applicable to all DH 104 Riley Dove Series 1 and 2. Should have been embodied on receipt of Riley Service Letter 65–3 dated 29 December 1965.

**CAA AD No:** 2742 PRE 80

**Associated Material:** Sir Robert McAlpine Riley Dove Service Bulletin No. 104–2.

**Description:** Fatigue Life Limitation of wing Spars after conversion and incorporation of Mod. 780.

### **Applicability – Compliance – Requirement**

Applicable to all DH 104 Riley Dove 1 and 2.

NOTE: The spar life must be calculated in accordance with the formula specified in Service Bulletin 104–2.

**CAA AD No:** 2743 PRE 80

**Associated Material:** 253

**Description:** To introduce two-pole wiring for cabin lights and immersed fuel pumps in order to prevent compass deviation when these two services are in use.

### **Applicability – Compliance – Requirement**

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**CAA AD No:** 2744 PRE 80

**Associated Material:** 381

**Description:** Re-positioning of crash-operated inertia switch.

### **Applicability – Compliance – Requirement**

See Technical News Sheet CT (104) No. 146. The installation covered by Modifications 862 and 1090 is an acceptable alternative.



**CAAAD No:** 2745 PRE 80

**Associated Material:**

**Associated Material:** Associated Material: 524

**Description:** To introduce Engine Mounting Pick-up Fittings Parts Nos. 4.W.4697 and 4.2.4699 made of Mild Steel Plate.

**Applicability – Compliance – Requirement**

See Technical News Sheet Series CT (104) No. 65.

**CAAAD No:** 2746 PRE 80

**Associated Material:** \*574

**Description:** To introduce Ice Shield on VHF and ADF Whip Aerials.

**Applicability – Compliance – Requirement**

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**CAAAD No:** 2747 PRE 80

**Associated Material:** \*651

**Description:** To introduce flexibly mounted VHF Whip Aerials when mounted on the canopy.

**Applicability – Compliance – Requirement**

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**CAAAD No:** 2748 PRE 80

**Associated Material:** \*652

**Description:** To introduce flexibly mounted VHF Whip Aerial when mounted on the cabin roof.

**Applicability – Compliance – Requirement**

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**CAAAD No:** 2749 PRE 80

**Associated Material:** \*653

**Description:** To introduce flexibly mounted ADF Whip Aerial when mounted on the canopy.

**Applicability – Compliance – Requirement**

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\* Denotes if applicable

**CAAAD No:** 2750 PRE 80

**Associated Material:** 655

**Description:** To provide supply for fire extinguisher circuit from battery side of ground-flight switch.

**Applicability – Compliance – Requirement**

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**CAAAD No:** 2751 PRE 80

**Associated Material:** \*753

**Description:** To introduce smaller washer on flexibly mounted Whip Aerials.

**Applicability – Compliance – Requirement**

See Technical News Sheet CT (104) No. 109.

**CAAAD No:** 2752 PRE 80

**Associated Material:** 765

**Description:** To introduce HTS pins for locking stud on Aileron Differential Pulley Spindle.

**Applicability – Compliance – Requirement**

See Technical News Sheet CT (104) No.114.

**CAAAD No:** 2753 PRE 80

**Associated Material:** 779

**Description:** To introduce steel centre section bottom boom

**Applicability – Compliance – Requirement**

See Technical News Sheet CT (104) No. 199.

**CAAAD No:** 2754 PRE 80

**Associated Material:** 780

**Description:** To introduce high tensile steel section in the wing main spar bottom boom.

**Applicability – Compliance – Requirement**

See Technical News Sheet CT (104) No. 199.

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\* Denotes if applicable

**CAAAD No:** 2755 PRE 80

**Associated Material:** \*786

**Description:** To introduce improvements to flexibly mounted Whip Aerials.

**Applicability – Compliance – Requirement**

See Technical News Sheet CT (104) No. 109.

**CAAAD No:** 2756 PRE 80

**Associated Material:** 868 and 978

**Description:** Main and Nose undercarriage locking and Jack attachment levers.

**Applicability – Compliance – Requirement**

Compliance required as detailed in Technical News Sheet CT (104) No. 155.

*Mod. 868:* (a) Aircraft prior to Serial No. 04463 should have been embodied by 1 April 1959.

(b) Aircraft Serial Nos. 04463 to 04477 inclusive should have been embodied by 30 September 1959.

*Mod. 978:* Should be embodied by 1 March 1971.

**CAAAD No:** 2757 PRE 80

**Associated Material:** \*1260

**Description:** To introduce modified elevator Servo Pt. No. 19355 – O incorporating Sperry Pressure Relief Valve Pt. No. 19287–05.

**Applicability – Compliance – Requirement**

Applicable to all aircraft fitted with Sperry Pilot Aids AL. 1A. AL.3 or AL.30. Should have been embodied by 30 April, 1960. Tech. News Sheet CT (104) No. 164 refers.

**CAAAD No:** 2758 PRE 80

**Associated Material:** \*1261

**Description:** To introduce modified elevator Servo Pt. No. 19356 – O incorporating Sperry Pressure Relief Valve, Pt. No. 19287–07.

**Applicability – Compliance – Requirement**

Applicable to all aircraft fitted with Sperry Pilot Aids AL. 1A. AL.3 or AL.30. Should have been embodied by 30 April, 1960. Tech. News Sheet CT (104) No. 164 refers.

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\* Denotes if applicable

**CAA AD No:** 2759 PRE 80

**Associated Material:** 1298

**Description:** Wing Lower Main Spar Root Joints – To introduce improved protective treatment.

**Applicability – Compliance – Requirement**

Compliance required as detailed in Tech. News Sheet CT (104) No. 168.

**CAA AD No:** 2760 PRE 80

**Associated Material:** TNS 125

**Description:** *Wings* – Inspection of main spar booms.

**Applicability – Compliance – Requirement**

Compliance required as detailed in TNS.

**CAA AD No:** 2761 PRE 80

**Associated Material:** TNS 134

**Description:** *Wings* – Inspection of main spar joints.

**Applicability – Compliance – Requirement**

Compliance required as detailed in TNS. Applicable only to aircraft up to and including Serial No. 04465 which have not had Modification 870 embodied.

**CAA AD No:** 2762 PRE 80

**Associated Material:** \*TNS 164

**Description:** *Auto-Pilot* – Limitations of use.

**Applicability – Compliance – Requirement**

Compliance required as detailed in TNS.

**CAA AD No:** 2763 PRE 80

**Associated Material:** TNS 171

**Description:** *Flight Controls* – Inspection of aileron cables in the control column.

**Applicability – Compliance – Requirement**

Compliance required as detailed in TNS.

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\* Denotes if applicable

**CAA AD No:** 2764 PRE 80

**Associated Material:** TNS 178

**Description:** *Wings* – Inspection of lower root joint fittings.

**Applicability – Compliance – Requirement**

Compliance required as detailed in TNS.

**CAA AD No:** 2765 PRE 80

**Associated Material:** TNS 151

**Description:** *Flight Controls* – Aileron lever – To introduce a forging in lieu of a casting.

**Applicability – Compliance – Requirement**

Compliance required as detailed in TNS.

**CAA AD No:** 2766 PRE 80

**Associated Material:** TNS 186

**Description:** *Electrical Power* – Inspection of main earth post.

**Applicability – Compliance – Requirement**

Compliance required as detailed in TNS.

**CAA AD No:** 2767 PRE 80

**Associated Material:** TNS 187

**Description:** *Flight Controls* – Inspection of elevator and rudder trim tab connecting rod assembly eye ends.

**Applicability – Compliance – Requirement**

Compliance required as detailed in TNS.

**CAA AD No:** 2768 PRE 80

**Associated Material:** TNS 214

**Description:** *Pneumatic* – Inspection of emergency air bottles.

**Applicability – Compliance – Requirement**

Compliance required as detailed in TNS.

**CAA AD No:** 2769 PRE 80

**Associated Material:** TNS 216

**Description:** *Flight Controls* – Inspection of flap datum hinge assembly.

**Applicability – Compliance – Requirement**

Compliance required as detailed in TNS.

**CAA AD No:** 2770 PRE 80

**Associated Material:** TNS 217

**Description:** *Wings* – Inspection of lower front main attachment fittings.

**Applicability – Compliance – Requirement**

Compliance required as detailed in TNS.

**CAA AD No:** 2771 PRE 80

**Associated Material:** TNS 218

**Description:** *Flight Controls* – Inspection of flap datum hinge assembly.

**Applicability – Compliance – Requirement**

Compliance required as detailed in TNS.

**CAA AD No:** 2772 PRE 80

**Associated Material:** TNS 219

**Description:** *Flight Controls* – Inspection of rudder control pedal reversal lever.

**Applicability – Compliance – Requirement**

Compliance required as detailed in TNS.

## (2) De Havilland DH114 Heron Series Aircraft

UK National Airworthiness Directives previously published in CAP 476 – Mandatory Aircraft Modifications and Inspections Summary

**CAA AD No:** 2614 PRE 80

**Associated Material:** 57

**Description:** *Communications* – Introduction of a weak link in the fixed aerial wire.

**Applicability – Compliance – Requirement**

Applicable to Series 1 aircraft. Should have been embodied by 31 December 1954.

**CAA AD No:** 2615 PRE 80

**Associated Material:** 86

**Description:** *Communications* – Introduction of flexibly mounted VHF and ADF whip aerials when mounted on canopy.

**Applicability – Compliance – Requirement**

Applicable to Series 1B and 2 aircraft. Should have been embodied by 31 December 1957.

**CAA AD No:** 2616 PRE 80

**Associated Material:** 103

**Description:** *Communications* – Introduction of flexibly mounted VHF whip aerial when mounted on cabin roof.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Should have been embodied by 31 December 1954.

**CAA AD No:** 2617 PRE 80

**Associated Material:** 213

**Description:** *Landing Gear* – Introduction of strengthened nosewheel shock absorber.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Should have been embodied by 31 January 1955.

**CAA AD No:** 2618 PRE 80

**Associated Material:** 250

**Description:** *Pneumatic* – Introduction of modified flap selector valve.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Should have been embodied by 31 December 1955.

**CAAAD No:** 2619 PRE 80

**Associated Material:** 286

**Description:** *Flight Controls* – Reinforcement of spar of inner flaps.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Should have been embodied by 1 June 1954.

**CAAAD No:** 2620 PRE 80

**Associated Material:** 311

**Description:** *Fuel* – Introduction of shortened retaining cable on fuel tank filler caps.

**Applicability – Compliance – Requirement**

Applicable to all aircraft unless Modification 219 is embodied. Should have been embodied by 30 June 1954.

**CAAAD No:** 2621 PRE 80

**Associated Material:** 350

**Description:** *Fuel* – Introduction of modified wing tank filler neck packing plate to improve sealing efficiency.

**Applicability – Compliance – Requirement**

Applicable to all aircraft unless Modification 219 is embodied. Should have been embodied by 30 June 1954.

NOTE: Modification 352 is alternative to Modification 350 and is not applicable if Modification 219 is embodied.

**CAAAD No:** 2622 PRE 80

**Associated Material:** 342

**Description:** *Vacuum* – Introduction of guard for A.S.I. drain taps in forward luggage compartment.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Should have been embodied by 31 December 1954.

**CAAAD No:** 2623 PRE 80

**Associated Material:** 365

**Description:** *Fuselage* – Reinforcing of rear false spar to fuselage side.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Should have been embodied by 31 October 1954.



**CAA AD No:** 2624 PRE 80

**Associated Material:** 373

**Description:** *Communications* – Introduction of smaller washer on flexibly mounted whip aerials.

**Applicability – Compliance – Requirement**

Applicable to all aircraft with whip aerials fitted. Should have been embodied by 31 October 1955.

**CAA AD No:** 2625 PRE 80

**Associated Material:** 475

**Description:** *Flight Controls* – Introduction of H.T.S. pin for locking stud on aileron differential pulley spindle.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Should have been embodied by 31 December 1954.

**CAA AD No:** 2626 PRE 80

**Associated Material:** 485

**Description:** *Wings* – Introduction of safety device on wing leading edge toggle fasteners.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Should have been embodied by 31 December 1956.

**CAA AD No:** 2627 PRE 80

**Associated Material:** 492

**Description:** *Fuselage* – Introduction of H.T. steel bottom boom for centre section spar.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Compliance required as detailed in Technical News Sheet No. F2.

**CAA AD No:** 2628 PRE 80

**Associated Material:** 514

**Description:** *Communications* – Introduction of improvements to flexibly mounted whip aerials.

**Applicability – Compliance – Requirement**

Applicable to aircraft fitted with whip aerials. Should have been embodied by 31 October 1955.

**CAA AD No:** 2629 PRE 80

**Associated Material:** 520

**Description:** *Wings* – Introduction of H.T. steel bottom boom section.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Compliance required as detailed in Technical News Sheet No. W4.

NOTE: Modification 524 covers this work for aircraft Serial No. 10903.

**CAA AD No:** 2630 PRE 80

**Associated Material:** 527

**Description:** *Wings* – Reinforcing of bottom skin aft of wheel well.

**Applicability – Compliance – Requirement**

Applicable to all Series 2 aircraft. Compliance required as detailed in Technical News Sheet No. W4.

**CAA AD No:** 2631 PRE 80

**Associated Material:** 662

**Description:** *Wings* – Replacement of existing cast aileron operating lever with a forged lever.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Compliance required as detailed in Technical News Sheet No. W3.

**CAA AD No:** 2632 PRE 80

**Associated Material:** 753

**Description:** *Flight Controls* – Improvement to rudder leading edge.

**Applicability – Compliance – Requirement**

Applicable to all Series 1 aircraft without Modification 203 embodied. Should have been embodied by 31 December 1955.

**CAA AD No:** 2633 PRE 80

**Associated Material:** 758

**Description:** *Flight Controls* – Introduction of reinforcing plate to elevator main spar at root rib.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Should have been embodied by 31 March 1956.

**CAA AD No:** 2634 PRE 80

**Associated Material:** 760 or 929

**Description:** *Landing Gear – Introduction of strengthened nose leg inner casing.*  
Introduction of strengthened nose leg inner casing incorporating an improved method of locating towing bobbins.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Compliance required as detailed in Technical News Sheet No. U1. Should have been embodied by 30 June 1957.

**CAA AD No:** 2635 PRE 80

**Associated Material:** 810

**Description:** *Wings – Provision for stop plates for toggle fasteners at wing leading edges.*

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Should have been embodied by 31 December 1956.

**CAA AD No:** 2636 PRE 80

**Associated Material:** 811

**Description:** *Wings – Introduction of stronger toggle fastener access doors and limiting chains.*

**Applicability – Compliance – Requirement**

Applicable to aircraft with Modification 469 or Modifications 469 and 815 or 154 embodied. Should have been embodied by 31 December 1956.

**CAA AD No:** 2637 PRE 80

**Associated Material:** 887 or 919

**Description:** *Flight Controls – Introduction of modified rudder trim tab connecting rod. Introduction of non-linear rudder tab.*

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Should have been embodied by 30 November 1956. Acceptable to Series 2 aircraft as an alternative to Modification 887 provided that fork Part No. 14TR.311 is fitted concurrently.

**CAA AD No:** 2638 PRE 80

**Associated Material:** 931

**Description:** *Wings – Introduction of packing plate between steel position of the wing spar boom and the wing skin reinforcing plate.*

**Applicability – Compliance – Requirement**

Applicable to aircraft prior to Serial No. 14083. Compliance required as detailed in Technical News Sheet No. W.4.

**CAA AD No:** 2639 PRE 80

**Associated Material:** 1093

**Description:** *Landing Gear* – Introduction of revised locking lever and jack attachment lever.

**Applicability – Compliance – Requirement**

Applicable to Series 2 aircraft. Compliance required as detailed in Technical News Sheet No. U.13.

**CAA AD No:** 2640 PRE 80

**Associated Material:** 1303

**Description:** *Flight Controls* – Introduction of an improved method of locking bolts at flap hinge rib 7.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Compliance required as detailed in Technical News Sheet No. W.16.

**CAA AD No:** 2641 PRE 80

**Associated Material:** 1320

**Description:** *Propellers* – Introduction of propeller feathering unit type PFD 3001 in lieu of PFD 2205.

**Applicability – Compliance – Requirement**

Applicable to Series 2 aircraft with Modification 220 embodied.

**CAA AD No:** 2642 PRE 80

**Associated Material:** 1498

**Description:** *Wings* – Introduction of special bolt Part No. 14W.5835 in lieu of special bolt Part No. 4W.1121 for attachment of flap jack shackles in wing.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Compliance required as detailed in Technical News Sheet No. CF.7.

**CAA AD No:** 2643 PRE 80

**Associated Material:** 1536

**Description:** *Landing Gear* – Introduction of H.T.S. jack attachment bolts 14–2U.631 in lieu of mild steel bolt 14.2U.229.

**Applicability – Compliance – Requirement**

Applicable to Series 2 aircraft. Compliance required as detailed in Technical News Sheet No. U.8.

**CAAAD No:** 2644 PRE 80

**Associated Material:** 1592

**Description:** *Landing Gear* – Introduction of a down lock operating lever and upper stabiliser casting in an improved material.

**Applicability – Compliance – Requirement**

Applicable to Series 2 aircraft. Compliance required as detailed in Technical News Sheet No. U12. Part 'A' should have been embodied by 31 December 1970 for aircraft post Modification 608.

**CAAAD No:** 2645 PRE 80

**Associated Material:** 1609

**Description:** *Landing Gear* – Introduction of a damper ram with improved damping characteristics for main undercarriage.

**Applicability – Compliance – Requirement**

Applicable to Series 2 aircraft. Compliance required as detailed in Technical News Sheet No. U15.

**CAAAD No:** 2646 PRE 80

**Associated Material:** 1610

**Description:** *Landing Gear* – Introduction of nose undercarriage radius rod adjusting screw in an improved material.

**Applicability – Compliance – Requirement**

Applicable to Series 2 aircraft. Compliance required as detailed in Technical News Sheet No. U16.

**CAAAD No:** 2647 PRE 80

**Associated Material:** CF.6

**Description:** *Flight Controls* – Inspection of aileron cables in the control column.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Should have been complied with by 31 August 1960. Repeat inspection on any occasion when aileron cables in the control column have been disturbed.

**CAAAD No:** 2648 PRE 80

**Associated Material:** CF.10

**Description:** *Flight Controls* – Inspection of eye end on trim tab connecting rod.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Compliance required as detailed in Technical News Sheet.

**CAA AD No:** 2649 PRE 80

**Associated Material:** CF.13

**Description:** *Flight Controls* – Inspection of flap datum hinge assembly.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Compliance required as detailed in Technical News Sheet.

**CAA AD No:** 2650 PRE 80

**Associated Material:** CF.14

**Description:** *Flight Controls* – Inspection of flap datum hinge assembly.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Compliance required as detailed in Technical News Sheet.

**CAA AD No:** 2651 PRE 80

**Associated Material:** CF.15

**Description:** *Flight Controls* – Inspection of rudder control pedal reversal lever.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Compliance required as detailed in Technical News Sheet.

**CAA AD No:** 2652 PRE 80

**Associated Material:** E.3

**Description:** *Power Plant* – Inspection of engine mounting frames.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Compliance required as detailed in Technical News Sheet.

**CAA AD No:** 2653 PRE 80

**Associated Material:** E.8

**Description:** *Power Plant* – Inspection of engine mounting stay struts.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Compliance required as detailed in Technical News Sheet.

**CAA AD No:** 2654 PRE 80

**Associated Material:** F.2

**Description:** *Fuselage* – Safe life of fuselage centre section lower spar boom.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Compliance required as detailed in Technical News Sheet.

**CAA AD No:** 2655 PRE 80

**Associated Material:** F.15

**Description:** *Fuselage* – Inspection of fin attachment brackets.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Compliance required as detailed in Technical News Sheet.

**CAA AD No:** 2656 PRE 80

**Associated Material:** F16

**Description:** *Fuselage* – Inspection of emergency escape hatches.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Compliance required as detailed in Technical News Sheet.

**CAA AD No:** 2657 PRE 80

**Associated Material:** F17

**Description:** *Fuselage* – Inspection of fuselage keel frame at wing rear spar pick up position.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Compliance required as detailed in Technical News Sheet.

**CAA AD No:** 2658 PRE 80

**Associated Material:** F18

**Description:** *Fuselage* – Inspection of centre section spar lower boom drag bracing member.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Compliance required as detailed in Technical News Sheet.

**CAA AD No:** 2659 PRE 80

**Associated Material:** F19

**Description:** *Fuselage* – Inspection of centre section main spar top boom.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Compliance required as detailed in Technical News Sheet.

**CAA AD No:** 2660 PRE 80

**Associated Material:** F20

**Description:** *Fuselage* – Inspection of centre section main spar bottom boom.

**Applicability – Compliance – Requirement**

Applicable to all aircraft without Modification 492 embodied. Compliance required as detailed in Technical News Sheet.

**CAA AD No:** 2661 PRE 80

**Associated Material:** F21

**Description:** *Fuselage* – Replacement of tailplane upper pick-up eyebolt in bulkhead 7.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Compliance required as detailed in Technical News Sheet.

**CAA AD No:** 2662 PRE 80

**Associated Material:** M6

**Description:** *Fire Protection* – Inspection of engine fire extinguisher system air intake nozzle.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Compliance required as detailed in Technical News Sheet.

**CAA AD No:** 2663 PRE 80

**Associated Material:** M9

**Description:** *Structure* – Aircraft life extension.

**Applicability – Compliance – Requirement**

Applicable to Series 2 aircraft. Compliance required as detailed in Technical News Sheet.

**CAA AD No:** 2664 PRE 80

**Associated Material:** M11

**Description:** *Structures* – Aircraft life extension.

**Applicability – Compliance – Requirement**

Applicable to Series 1B aircraft. Compliance required as detailed in Technical News Sheet.

**CAA AD No:** 2665 PRE 80

**Associated Material:** N4

**Description:** *Electrical Power* – Inspection of main earth posts.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Compliance required as detailed in Technical News Sheet.

**CAA AD No:** 2666 PRE 80

**Associated Material:** N6

**Description:** *Electrical Power* – Loss of generated electrical power.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Compliance required as detailed in Technical News Sheet.

Note: Compliance is accepted as providing an equivalent level of safety to the requirements of Airworthiness Notice No. 82. (Now CAP 747, Section 2, Part 3, GR No. 4.)



**CAAAD No:** 2667 PRE 80

**Associated Material:** S6

**Description:** *Pneumatic* – Replacement of emergency air bottles.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Should have been complied with by 31 December 1970.

**CAAAD No:** 2668 PRE 80

**Associated Material:** S7

**Description:** *Pneumatic* – Replacement of main air reservoirs.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Should have been complied with by 1 June 1972.

**CAAAD No:** 2669 PRE 80

**Associated Material:** U13

**Description:** *Landing Gear* – Replacement of nose undercarriage locking lever and jack attachment lever.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Should have been complied with by 1 March 1971.

**CAAAD No:** 2670 PRE 80

**Associated Material:** U15

**Description:** *Landing Gear* – Modification to main undercarriage damper ram.

**Applicability – Compliance – Requirement**

Applicable to Series 2 aircraft. Should have been complied with by 30 April 1974.

**CAAAD No:** 2671 PRE 80

**Associated Material:** U16

**Description:** *Landing Gear* – Replacement of nose undercarriage radius rod adjusting screw.

**Applicability – Compliance – Requirement**

Applicable to Series 2 aircraft. Should have been complied with by September 1973.

**CAAAD No:** 2672 PRE 80

**Associated Material:** U17

**Description:** *Landing Gear* – Inspection of nose undercarriage inner casing.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Compliance required as detailed in Technical News Sheet.

**CAA AD No:** 2673 PRE 80

**Associated Material:** W3

**Description:** *Wings* – Replacement of aileron lever Part No. 14WA-199.

**Applicability – Compliance – Requirement**

Applicable to all aircraft without Modification 662 embodied. Should have been complied with by 31 May 1970.

**CAA AD No:** 2674 PRE 80

**Associated Material:** W4

**Description:** *Wings* – Safe life of wing lower spar boom.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Compliance required as detailed in Technical News Sheet.

**CAA AD No:** 2675 PRE 80

**Associated Material:** W6

**Description:** *Wings* – Inspection of wing spar booms.

**Applicability – Compliance – Requirement**

Applicable to aircraft Series Nos up to and including 14093 and Serial Nos 14098 which have not had Modification 843 embodied. Compliance required as detailed in Technical News Sheet.

**CAA AD No:** 2676 PRE 80

**Associated Material:** W9

**Description:** *Wings* – Inspection of wing to fuselage lower main root joints.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Compliance required as detailed in Technical News Sheet.

**CAA AD No:** 2677 PRE 80

**Associated Material:** W10

**Description:** *Wings* – Inspection of wing rear false spar web.

**Applicability – Compliance – Requirement**

Applicable to all aircraft which have not had Modification 1454 embodied. Should have been complied with by 31 December 1961.

**CAA AD No:** 2678 PRE 80

**Associated Material:** W15

**Description:** *Wings* – Inspection of wing strap for engine mounting pick up.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Compliance required as detailed in Technical News Sheet.

**CAA AD No:** 2679 PRE 80

**Associated Material:** W16

**Description:** *Wings* – Replacement of bolts at flap hinge bracket and inspection of fork joints and reinforcing brackets.

**Applicability – Compliance – Requirement**

Applicable to all Aircraft. Compliance required as detailed in Technical News Sheet.

**CAA AD No:** 2680 PRE 80

**Associated Material:** W17

**Description:** *Wings* – Inspection of wing to fuselage front lower attachment fittings.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Compliance required as detailed in Technical News Sheet.

**CAA AD No:** 009–05–87

**Associated Material:** W19

**Description:** *Wings* – Aileron mass balance weight assemblies – Internal corrosion.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Compliance required as detailed in Technical News Sheet.

**CAA AD No:** 001–11–88

**Associated Material:** CF–20

**Description:** *Flight Controls* – Flap jack to flap attachment pin.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Compliance required as detailed in Technical News Sheet.

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## (1) Dornier Do.28 Series Aircraft

### 1 CAA Additional Airworthiness Directives

#### 1.1 0877 PRE 78

##### Description

Before the CAA can recommend issue of Certificate of Airworthiness the following Dornier modifications must be embodied.

##### Applicability – Compliance – Requirement

**Applicable** to Dornier Do.28B-1 Series aircraft.

- 1) Maximum 'tail heavy' tailplane setting from 10.5° reduced to 9°.
- 2) Trailing edge strips on lift flaps.
- 3) Quadrant on lower elevator lever.
- 4) Extension brackets on elevator control bell crank on frame 3.
- 5) Elevator control cable extension.
- 6) Elevator tab rod linked at fuselage frame 18.
- 7) Rigging specification for elevator tabs.
- 8) Control column stop spaced for 'elevator down'.
- 9) Speed limitation placard revised.
- 10) Airspeed indicator range arc revised.

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## (2) Douglas DC-3 and Dakota

UK National Airworthiness Directives previously published in CAP 476 – Mandatory Aircraft Modifications and Inspections Summary

**CAA AD No:** 2840 PRE 80

**Associated Material:** 1095

**Description:** To move ground supply relay to new position and introduction of a warning lamp on the port doorway side member at Stn 86.

**Applicability – Compliance – Requirement**

Compliance required as detailed in Modification Leaflet.

**CAA AD No:** 2841 PRE 80

**Associated Material:** 1097

**Description:** To strengthen wing root fillet ribs and attachments. Modification may be detected by an extra thickness of metal (20 SWG) between the fillet and the wing skin.

**Applicability – Compliance – Requirement**

Compliance required as detailed in Modification Leaflet.

**CAA AD No:** 2842 PRE 80

**Associated Material:** 1099

**Description:** To obviate failure of the flap operating shaft.

**Applicability – Compliance – Requirement**

Compliance required as detailed in Modification Leaflet.

**CAA AD No:** 2843 PRE 80

**Associated Material:** 1106

**Description:** Improved universal joint in the fuel selector valve control.

**Applicability – Compliance – Requirement**

Compliance required as detailed in Modification Leaflet.

**CAA AD No:** 2844 PRE 80

**Associated Material:** 1107

**Description:** To improve the fuel tank filler neck seal.

**Applicability – Compliance – Requirement**

Compliance required as detailed in Modification Leaflet.

**CAAAD No:** 2845 PRE 80

**Associated Material:** S688

**Description:** To provide six additional 2 BA nuts and bolts on access panel, adjacent to exhaust pipe expansion joint.

**Applicability – Compliance – Requirement**

Compliance required as detailed in Modification Leaflet.

**CAAAD No:** 2846 PRE 80

**Associated Material:** S694

**Description:** Introduction of Starter Relay Failure Warning Lights.

**Applicability – Compliance – Requirement**

Compliance required as detailed in Modification Leaflet.

**CAAAD No:** 2847 PRE 80

**Associated Material:** S599

**Description:** Introduction of flameproof hose.

**Applicability – Compliance – Requirement**

Compliance required as detailed in Modification Leaflet. The following Mods are acceptable alternatives: BOAC Mod. P12755 or P22218, BEAC Mod. P-1-4 Skyways Mod. S371 Airtech Mod. AT101

**CAAAD No:** 2848 PRE 80

**Associated Material:** S607

**Description:** Fireproofing of firewall.

**Applicability – Compliance – Requirement**

Compliance required as detailed in Modification Leaflet. The following Mods. are acceptable alternatives: BOAC Mod. P12575 BEAC Mod. P-35-2 Skyways Mod. S359 Airtech Mod. AT103.

**CAAAD No:** 2849 PRE 80

**Associated Material:** S617

**Description:** Flameproofing of fast feathering circuits.

**Applicability – Compliance – Requirement**

Compliance required as detailed in Modification Leaflet. The following Mods are acceptable alternatives: BOAC Mod. P12757 BEAC Mod. P-35-2 Skyways Mod. S359 Airtech Mod. AT103.



**CAA AD No:** 2850 PRE 80

**Associated Material:** S622

**Description:** Installation of fire extinguisher system.

**Applicability – Compliance – Requirement**

Compliance required as detailed in Modification Leaflet. The following Mods. are acceptable alternatives: BOAC Mod. P22082 BEAC Mod. U-4-5 Skyways Mod. S331. Airtech Mod. AT104.

**CAA AD No:** 2851 PRE 80

**Associated Material:** S646 or S652

**Description:** Installation of fire warning light.

**Applicability – Compliance – Requirement**

Compliance required as detailed in Modification Leaflet. The following Mods. are acceptable alternatives: BOAC Mod. P22082 BEAC Mod. E-32-4 Skyways Mod. S331, Airtech Mod. AT105.

**CAA AD No:** 2852 PRE 80

**Associated Material:** S760

**Description:** Provision of flexible sleeving inside engine electrical conduits to prevent chafing.

**Applicability – Compliance – Requirement**

Compliance required as detailed in Modification Leaflet. An alternative modification acceptable to the CAA may be embodied.

**CAA AD No:** 2853 PRE 80

**Associated Material:** Douglas Service Bulletin DC3 No. 239

**Description:** Modification of the engine hydraulic pump selection system.

**Applicability – Compliance – Requirement**

Compliance required as detailed in Modification Leaflet. The following modifications are acceptable as alternatives: Transair TRA/M/109 or British Airways BEA No. H-4-21.

**CAA AD No:** 2855 PRE 80

**Associated Material:** –

**Description:** Inspection of fuel vapour return lines.

**Applicability – Compliance – Requirement**

Following a fire in the air believed to have been caused by a leaking rubber hose joint in the fuel vapour return line situated adjacent to electrical equipment, all Dakota aircraft should now have been examined to ascertain that no rubber hose and clip type joints occurred in the fuel system pipe lines in the wheel bay including the vapour vent return line. Any such hose and clip joints in the wheel bay should have been eliminated by the substitution of all metal joints.

**CAAAD No:** 2856 PRE 80

**Associated Material:** CAA Letter ACC/1214 dated 14-4-67

### Applicability – Compliance – Requirement

Before the CAA will issue or renew Certificates of Airworthiness for Dakota (Douglas C47) aircraft the following requirements must be fulfilled:

- 1
  - (a) Dakota 3 Aircraft must be fitted with Pratt and Whitney S1C3G, R1830-49, -57, -82, -92 or -96 engines.
  - (b) Dakota 4 Aircraft must be fitted with Pratt and Whitney S3C4G, S4C4G, R1830-43, -43A, -67, -90C or 90D engines.
  - c) All these engines must have installed a reduction gear of 16.9.  
Reduction gear nameplates or housings must be marked '16/9' to denote the gear ratio and 'R' to indicate rigid or 'D' to indicate non-rigid (spline coupled). Engine log books must also be annotated but only overhaul organisations may mark the gear housings.
  - d) Propeller blades 6477A-0 and interchangeable blades 6277-0 must not be used with hub 23E50 if rigid type reduction gears are installed.
  - e) Propeller blades 6153-18, 6353-18, 6229-18 and 6429-18 may be used with propeller hub 23E50 and a Placard is required 'Avoid continuous operation between 1900 and 2050 rev/min'. If rigid type reduction gears are fitted an additional placard is required – 'Avoid continuous operation between 1500 and 1650 rev/min and avoid take-off operation between 2450 and 2700 rev/min'.

See also FAA Aircraft Data Sheet A669 for other propeller blade and hub combinations and limitations.
- 2 On Dakota 4 Aircraft installed with Pratt and Whitney S4C4G or R1830-90C engines, the 2 speed supercharger gear controls must be positively locked for operation in low gear only. This should be done by a tie bar on the rear cover of the engine, the disconnection of the engine controls in the power plant bay, and a note at the supercharger control in the cockpit. Approval is granted only in certain aerial work circumstances to use this control.
- 3 Dakota 5 Aircraft are fitted with R1830-94 engines and are certified in the Private Category only.
- 4 Dakota 6 are similar to Dakota aircraft having R1830-90D or 90C engines, undercarriage doors, Goodyear single disc brakes, and quicker undercarriage retraction. Also Paddle blade type propeller Hamilton 23E50-473-6519-18.
- 5 At conversion from military to civil use the outer wing and centre section lower surface attachment angles and doublers must be changed to the standards of AD66-18-2 irrespective of the total hours flown by the aircraft.
- 6 The non-ram air intake system, if installed must be made inoperative by positively locking the intake door in the closed position and rivetting a blanking plate over the control lever quadrant to prevent inadvertent operation, in accordance with Douglas Drawing 5115226 or equivalent Forward facing filtered air intakes are not approved by the FAA. See also Item 18.
- 7 A satisfactory windscreen wiper must be installed.
- 8 All aircraft must be fitted with oil cooler air exit shutters unless the aircraft has been otherwise modified to an approved scheme.
- 9 A vacuum gauge must be installed in the instrument vacuum system.

- 10 To comply with current Air Navigation Order, the following must be provided for Transport Category (Passenger) Standard.
- i) Emergency lighting in the passenger compartment, usually three inertia and manual control lights will be sufficient depending on the interior layout.
  - ii) Method of illumination of the leading edges of the mainplanes for ice observation at night.
  - iii) Flashing navigation lights to be fitted giving the correct angular range of light.
  - iv) Torches.
  - v) First Aid Kits and manuals.
  - vi) Means of indicating to the passengers that seat belts must be fastened and smoking prohibited.
  - vii) Exits and Emergency Exits must be marked; external marking must be easily visible from the ground.
  - viii) The aircraft, flight and navigation instrumentation must be checked for compliance.
  - ix) Break-in points must be marked on the fuselage (ARB Specification No. 7) usually two points will be sufficient.
  - x) Spare electrical fuses to 10% of each value or 3, whichever is most, must be provided.
  - xi) Safety harness for the pilots installed to an approved scheme.
- 11 The undercarriage must be in accordance with Douglas Service Bulletin No. 242 as supplemented by Douglas Service Bulletin No. 261 and tyres of 12 ply rating or over must be fitted.
- 12 When AN4/7A and AN4/10A bolts are used for mainplane attachments they must be torque loaded to 135 to 150 in/lb. The only British equivalent bolts are A25-4E, -5E and -6E and these must be torque loaded to 130 to 135 in/lb. American and British bolts must not be mixed on any one aircraft and similar type stiff nuts must be used being assembled dry.
- 13 Oil hoppers should be removed from oil tanks to an approved modification.
- 14 Several types of fire warning lights may be fitted in the cockpit if a hinged night hood is fitted or if a rotary dimmer switch is fitted; these must be wire locked in 'day' position using fusewire.
- 15 The cabin lining, upholstery, etc. should be fire resistant (ARB Specification No. 8). The seating layout must be approved by the Authority and suitable cabin fire extinguishers must be provided.
- 16 Early type wing tips having stringers in the top surface of 1/2 x 7/16 x .040 must be reworked to Douglas Service Bulletin No. 215 Supplement No. 1 of 30-11-43 and Douglas Service Letter of 19-10-43. The later types have stringers of 7/8 x 1/2 x .051 and these are satisfactory.
- 17 The Radio Station must comply with CAA requirements.
- 18 The selector mechanism for the carburettor 'Hot Air' supply must be rearranged, if necessary, to operate in the following manner, and placarded accordingly:
- |         |   |         |
|---------|---|---------|
| FORWARD | – | RAM AIR |
| AFT     | – | HOT AIR |

**CAA AD No:** 001-07-78

**Associated Material:** N/A

**Description:** Flap Operating Systems

**Applicability – Compliance – Requirement**

Applicable to Dakota DC3/C47 aircraft.

Within 50 flight hours of the receipt of this CAA Emergency Airworthiness Directive, Operators are to perform the following inspection:

- 1 Remove all panels to gain access to flap jack and parallelogram linkage, including panel flap recess covering aft end of linkage.
- 2 Inspect link rods for bow, or sign of rubbing or chafing.
- 3 With flaps up check that with flap hydraulic jack bottomed, that the flap trailing edge is lightly contacting the buffer pads on the wing.
- 4 Operate the flaps slowly up and down stopping at each setting. Check that the link rods clear the rib cut out through which they pass by at least on-quarter inch. Critical Points are with flaps up and three quarters down.
- 5 Replace any defective link rods. Remove material from rib cut out to achieve minimum clearance; this will involve de-rivetting of stiffener angles.

If defective rods are found as a result of this inspection Operators are requested to advise the Safety Data Unit, CAA, Redhill, quoting this CAA Emergency AD number. Steps 1 to 4 of the inspection should be accomplished at any time the flap rigging is adjusted.

## (2) Jodel Series Aircraft

### 1 CAA Additional Airworthiness Directives

#### 1.1 010-06-79 Rev 2

##### Description

Stabilator Attachment – Inspection for corrosion.

##### Applicability – Compliance – Requirement

Applicable to all Jodel aircraft fitted with all-moving tailplane (stabilator) in particular Models DR150, DR1050M and DR1051MM.

**Compliance** is required not later than 10 flight hours from the effective date of this Directive which is 6 July 1979. Inspect the inboard and outboard stabilator bearing attachment plates for corrosion in accordance with the following procedure:

- a) Remove stabilator.
- b) Remove bearing attachment plates located each side of top longerons and inspect for corrosion, removing paint finish as necessary.
- c) If corrosion is evident replace all plates by anodised aluminium replacement plates supplied by Apex Aircraft or new steel plates to be obtained from Airworld UK Ltd.
- d) If plates are uncorroded, re-install plates and re-inspect at periods not exceeding 3 years elapsed time or at the next C of A renewal if more convenient.
- e) The periodic inspection required by paragraph d) is not required if the plates have been replaced by steel plates in accordance with paragraph c).

**NOTE:** This Directive has been amended to show in full the content of CAA Special Inspection JO/EN/1 Revision A.

Revision 1 became effective on 5 January 1998.

Revision 2 became effective on 28 September 2004.

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## **(1) Learjet 35A/36A**

### **1 Additional Requirements and Special Conditions**

#### **1.1 Comparator Warning Indicator**

Comparator warning indicators are required for the two main attitude indicators and the comparison is to be made at the instrument presentation. Alternatively self-contained standby instruments may be located in close proximity to each main horizon indicator.

The independence of the main attitude indicators shall not be violated by the comparator.

#### **1.2 Flap Gates**

A flap gate must be introduced at the discontinued approach climb setting and must comply with the requirements of BCAR Chapter D4-8, paragraphs 1.12.1 and 3.3.1.

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## (1) Lockheed L-188 Series Aircraft

### 1 Additional Requirements and Special Conditions

#### Applicable to L188 Electra.

#### 1.1 Smoke Detectors

Smoke detector systems installed in Class E Cargo compartments must be in compliance with CS 25.855 and 25.857.

#### 1.2 Loss of Propeller

As a result of the accident and incident record, a Reduction Gear Assembly cockpit magnetic chip detection system, acceptable to the CAA, must be fitted. Associated aircraft Flight Manual Instructions must require engine shutdown as soon as possible following such an indication, or following a single unsuccessful burn-off should a Fuzz Burn-off system be fitted.

#### 1.3 Standby Artificial Horizon

As a result of the accident and incident record, either an acceptable artificial horizon comparator or, a standby artificial horizon must be fitted. If a standby artificial horizon is installed it must comply with the specification detailed in 2.3.1 of Airworthiness Notice No. 81.

### 2 Additional Airworthiness Directives

#### 2.1 002-05-99

**Applicable** to L-188A and L-188C aircraft all Serial numbers.

**Compliance** is required not later than 29 February 2000.

**Modify** all aircraft which have been fitted with a main cabin cargo door for which the initial opening movement is not inward or which could hazard the aircraft if open in flight, by embodiment of:

- 1) a) independent mechanical locks to secure the latches in the fully latched position, or  
b) individual positive mechanical means to retain each latch in the fully latched position. It must not be possible to position the mechanical means in the retaining position if the latch is not in the fully latched position.
- 2) a red visual warning which signals to the appropriate crewmember if the cargo door is not fully closed, latched and locked or if locks are not installed, fully closed and fully latched. The warning system shall be designed such that any termination failure (e.g. cable chafe or earth loss) will result in a fail-safe warning being generated. A warning must also be generated if the mechanical retention means required under 1) above, are not all retained in the fully latched (or locked) position.

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## (2) Luscombe Series Aircraft

### 1 Additional Airworthiness Directives

#### 1.1 003-08-2001

**Applicable** to Luscombe 8, 8A, 8B, 8C, 8D, 8E, 8F and T-8F aircraft.

**Compliance** is required with FAA AD 96-24-17R1 as amended and expanded by this Directive, not later than 12 months from the effective date of this Directive, which is 10 September 2001. The inspection required by this Directive must be repeated at intervals not exceeding 12 months.

**Inspect** the wings, (and if necessary modify in accordance with the manufacturer's approved data), to ensure that the access provisions are in accordance with: Luscombe Drawings 082138 and SK082138 for fabric-covered wings; or Part (a) of FAA AD 96-24-17R1 for metal-covered wings.

Using these, and other available access points, inspect the wing spars and, if applicable, the metal wing skins for corrosion. Inspect the fittings mounted on the spars for any indication of corrosion between the mating surfaces or of the fasteners. The alternative inspection procedures defined by the Appendix to FAA AD 96-24-17R1 are NOT an acceptable means of compliance with this Directive as applied to UK-registered aircraft. Inspect the horizontal tailplane externally for signs of corrosion, including loose or damaged rivets, or deformation of the skin panels. Remove any readily detachable tailplane fairings and inspect the internal structure of the tailplane for corrosion to the extent permitted by the available access.

If any indications of corrosion are found, investigate further by dis-assembly as necessary, and replace or repair all affected parts. Such replacement or repair must be approved under the applicable UK airworthiness procedures.

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**(2) Miles M14a Hawk Trainer III (Magister)**

UK National Airworthiness Directives previously published in CAP 476 – Mandatory Aircraft Modifications and Inspections Summary

**CAA AD No:** 2783 PRE 80

**Associated Material:** 2

**Description:** Introduction of fork end in lieu of eye end for flap ram attachment.

**Applicability – Compliance – Requirement:** -

**CAA AD No:** 2784 PRE 80

**Associated Material:** 12

**Description:** Strengthening of parallel motion link assembly on the rudder bar.

**Applicability – Compliance – Requirement:** -

**CAA AD No:** 2785 PRE 80

**Associated Material:** 14

**Description:** Introduction of anti-spinning strakes.

**Applicability – Compliance – Requirement:** -

**CAA AD No:** 2786 PRE 80

**Associated Material:** 26

**Description:** To prevent control fouling between seat and elevator control.

**Applicability – Compliance – Requirement:** -

**CAA AD No:** 2787 PRE 80

**Associated Material:** 35

**Description:** Introduction of steel sleeves on the throttle rods.

**Applicability – Compliance – Requirement:** -

**CAA AD No:** 2788 PRE 80

**Associated Material:** 36

**Description:** Introduction of improved attachment of spats.

**Applicability – Compliance – Requirement**

Not applicable when Mod. No. 116 (deletion of wheel spats and undercarriage oleo leg fairings) is embodied.

**CAA AD No:** 2789 PRE 80

**Associated Material:** 45

**Description:** Positive fixing of control column rudder grip.

**Applicability – Compliance – Requirement:** -

**CAA AD No:** 2790 PRE 80

**Associated Material:** 53

**Description:** Introduction of high aspect ratio rudder.

**Applicability – Compliance – Requirement:** -

**CAA AD No:** 2791 PRE 80

**Associated Material:** 58

**Description:** Introduction of markings on fuel cock handle.

**Applicability – Compliance – Requirement:** -

**CAA AD No:** 2792 PRE 80

**Associated Material:** 108

**Description:** Strengthening of rudder pedals.

**Applicability – Compliance – Requirement:** -

**CAA AD No:** 2793 PRE 80

**Associated Material:** 468

**Description:** Introduction of modification to fuel cock to prevent 'all tanks on' being selected.

**Applicability – Compliance – Requirement:** -

## (2) Miles M38 Messenger

UK National Airworthiness Directives previously published in CAP 476 – Mandatory Aircraft Modifications and Inspections Summary

**CAA AD No:** 2706 PRE 80

**Associated Material:** 72

**Description:** To fireproof all necessary pipes forward of the fireproof bulkhead.

**Applicability – Compliance – Requirement**

Applicable to Marks 2, 2A, 3, 4, 4A and 5.

**CAA AD No:** 2707 PRE 80

**Associated Material:** 134

**Description:** To introduce laminated safety glass or Perspex in cabin doors.

**Applicability – Compliance – Requirement**

Applicable to Marks 2, 2A, 3, 4, 4A and 5.

**CAA AD No:** 2708 PRE 80

**Associated Material:** 153A

**Description:** To introduce improvements in the venting and draining of fuel tanks.

**Applicability – Compliance – Requirement**

Applicable to Marks 2, 2A, 3, 4, 4A and 5.

**CAA AD No:** 2709 PRE 80

**Associated Material:** 240B

**Description:** To introduce an endless chain to operate the flap jack and an additional support.

**Applicability – Compliance – Requirement**

Applicable to Marks 2, 2A and 3 only. Complementary to Mod. No. 351. Not applicable to aircraft equipped with bucket type seats.

**CAA AD No:** 2710 PRE 80

**Associated Material:** 313

**Description:** To strengthen the lift flap bell crank levers.

**Applicability – Compliance – Requirement**

Applicable to Marks 2, 2A, 3, 4, 4A and 5. Essential only when Mod. No. 104 (to introduce a footstep into the flap) is embodied.

**CAAAD No:** 2711 PRE 80

**Associated Material:** 351

**Description:** To provide a guard on the flap operating chain pulley under the front seat.

**Applicability – Compliance – Requirement**

Applicable to Marks 2, 2A and 3 only. Complementary to Mod. No. 240B. Not applicable to aircraft equipped with bucket type seats.

**CAAAD No:** 2712 PRE 80

**Associated Material:** 363

**Description:** To reinforce the rear windows.  
Part A – To reinforce the window.  
Part B – To fit external metal frame.

**Applicability – Compliance – Requirement**

Applicable to Marks 2, 2A and 3 only. Essential for Part A or Part B only to be fitted.

**CAAAD No:** 2713 PRE 80

**Associated Material:** 368

**Description:** Part A – To provide a guard for the aileron torque shaft (forward end).  
Part B – To fit a leather sleeve.

**Applicability – Compliance – Requirement**

Applicable to Marks 2, 2A, 3 and 4. Essential for Part A or Part B only to be fitted. Not applicable to three seater aircraft.

**CAAAD No:** 2714 PRE 80

**Associated Material:** 405A

**Description:** To prevent crossing of battery connection.

**Applicability – Compliance – Requirement**

Applicable to Marks 2, 2A, 3 and 4. Essential for aircraft with 24 volt electrical system only.

**CAAAD No:** 2715 PRE 80

**Associated Material:** 406

**Description:** To prevent crossing of battery connections.

**Applicability – Compliance – Requirement**

Applicable to Marks 2, 2A, 3 and 4. Essential for aircraft with 12 volt electrical system only.



**CAA AD No:** 2716 PRE 80

**Associated Material:** 431

**Description:** To delete the cabin door jettison gear.

**Applicability – Compliance – Requirement**

Applicable to Marks 4A and 5.

**CAA AD No:** 2717 PRE 80

**Associated Material:** 434

**Description:** To reinforce the tailplane front false spar attachments to the tailplane root ribs.

**Applicability – Compliance – Requirement**

Applicable to all Marks. To be carried out in accordance with Handley Page (Reading) Ltd, Service Instruction Messenger/7.

**CAA AD No:** 2718 PRE 80

**Associated Material:** 462

**Description:** Introduction of starter isolation switch.

**Applicability – Compliance – Requirement**

Applicable to all Marks.

**CAA AD No:** 2719 PRE 80

**Associated Material:** 465

**Description:** Replacement of plastic rudder bar parallel motion links by metal.

**Applicability – Compliance – Requirement**

Applicable to all Marks. To be carried out in accordance with Handley Page (Reading) Ltd, Service Instruction Messenger/13.

**CAA AD No:** 2720 PRE 80

**Associated Material:** 467

**Description:** Drilling of fuel tank filler caps, and alterations to vent and drain pipes.

**Applicability – Compliance – Requirement**

Applicable to all Marks. To be carried out in accordance with Handley Page (Reading) Ltd, Service Instruction Messenger/14.

**CAA AD No:** 2721 PRE 80

**Associated Material:** 1/13

**Description:** To reposition the fuel drain pipe in the engine bay.

**Applicability – Compliance – Requirement**

Applicable to Mark 4A.

**CAA AD No:** 2722 PRE 80

**Associated Material:** 1/24

**Description:** To increase the size of the cable connections at the trim tabs.

**Applicability – Compliance – Requirement**

Applicable to Marks 4A and 5.

**CAA AD No:** 2723 PRE 80

**Associated Material:** 1/40

**Description:** To strengthen Rib 4 at undercarriage attachment.

**Applicability – Compliance – Requirement**

Applicable to Marks 4A and 5.

**CAA AD No:** 2724 PRE 80

**Associated Material:** 1/71

**Description:** To strengthen the nose cowl leg.

**Applicability – Compliance – Requirement**

Applicable to Mark 4A.

**CAA AD No:** 2725 PRE 80

**Associated Material:** 1/80

**Description:** Screws for attachment of elevator hinge block.

**Applicability – Compliance – Requirement**

Applicable to Marks 4A and 5.

**CAA AD No:** 2726 PRE 80

**Associated Material:** R&W 036

**Description:** Introduction of strengthened fork ends to flap jacks.

**Applicability – Compliance – Requirement**

To be carried out in accordance with Western Manufacturing (Reading) Limited Service Instruction Messenger/17. Any one of the following approved Modification is acceptable:

*Simpson's Aeroservices Mod. SA/M 20* – replacement for original faulty Acme thread fork ends.

*Simpson's Aeroservices Mod. SA/M 21* – replacement for original faulty square thread fork ends.

**CAA AD No:** 2727 PRE 80

**Associated Material:** –

**Description:** Inspection and rework of the flap jack mounting (Pt. No: 3838262) on the rear face of Frame 7.

**Applicability – Compliance – Requirement**

To be carried out in accordance with Handley Page (Reading) Ltd, Service Instruction Messenger/8.

**CAA AD No:** 2728 PRE 80

**Associated Material:** –

**Description:** Inspection of vent and drain connections on fuel tanks at periods of flying time not exceeding 150 hours.

**Applicability – Compliance – Requirement**

To be carried out in accordance with Handley Page (Reading) Ltd, Service Instruction Messenger/15.

**CAA AD No:** 2729 PRE 80

**Associated Material:** –

**Description:** Inspection of rudder bar pedals to ensure correct assembly and prevent fouling.

**Applicability – Compliance – Requirement**

To be carried out in accordance with Handley Page (Reading) Ltd, Service Instruction Messenger/16.

**CAA AD No:** 2730 PRE 80

**Associated Material:** –

**Description:** Inspection of Aileron Outer Hinge Bearing Housing.

**Applicability – Compliance – Requirement**

Western Manufacturing (Reading) Ltd, Service Instruction Messenger/18 refers.

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## (2) Miles M65 Gemini

UK National Airworthiness Directives previously published in CAP 476 – Mandatory Aircraft Modifications and Inspections Summary

**CAA AD No:** 2681 PRE 80

**Associated Material:** 153

**Description:** To improve the venting and draining of fuel tanks.

**Applicability – Compliance – Requirement:** -

**CAA AD No:** 2682 PRE 80

**Associated Material:** 240B

**Description:** To introduce an endless chain to operate the flap jack and an additional support.

**Applicability – Compliance – Requirement**

Complementary to Mod. No. 351. Not applicable to aircraft equipped with bucket type seats.

**CAA AD No:** 2683 PRE 80

**Associated Material:** 313

**Description:** To strengthen the lift flap bell crank levers.

**Applicability – Compliance – Requirement**

Essential only when Mod. No. 104 (to introduce a footstep into the flap) is embodied.

**CAA AD No:** 2684 PRE 80

**Associated Material:** 328

**Description:** Introduction of copper contacts in lieu of beryllium copper to prevent fusing of starter switch contacts.

**Applicability – Compliance – Requirement**

To be carried out in accordance with Handley Page (Reading) Limited, Service Instruction Gemini/15.

**CAA AD No:** 2685 PRE 80

**Associated Material:** 343

**Description:** Provision for positive locking of bolts at rear engine to the engine bearer.

**Applicability – Compliance – Requirement**

Not applicable to Mark 3A or 3B.

**CAAAD No:** 2686 PRE 80

**Associated Material:** 351

**Description:** To provide a guard on the flap control chain pulley under the front seats.

**Applicability – Compliance – Requirement**

Complementary to Mod. No. 240B. Not applicable to aircraft equipped with bucket type seats.

**CAAAD No:** 2687 PRE 80

**Associated Material:** 363

**Description:** To reinforce the rear windows.

Part A – To reinforce the windows.

Part B – To fit external metal frame.

**Applicability – Compliance – Requirement**

Essential for Part A or Part B only to be fitted.

**CAAAD No:** 2688 PRE 80

**Associated Material:** 368

**Description:** Part A – To provide a guard for the aileron torque shaft.

Part B – To fit leather sleeve.

**Applicability – Compliance – Requirement**

Essential for Part A or Part B only to be fitted.

**CAAAD No:** 2689 PRE 80

**Associated Material:** 405

**Description:** To prevent crossing of battery connections.

**Applicability – Compliance – Requirement: -**

**CAAAD No:** 2690 PRE 80

**Associated Material:** 432B

**Description:** To be carried out in accordance with Handley Page (Reading) Limited, Service Instruction Gemini/9.

**Applicability – Compliance – Requirement**

To reinforce the engine nacelle structure at the front support brackets.

**CAA AD No:** 2691 PRE 80

**Associated Material:** 434

**Description:** To reinforce the tailplane front false spar attachments to the tailplane root ribs.

**Applicability – Compliance – Requirement**

To be carried out in accordance with Handley Page (Reading) Limited, Service Instruction Gemini/10.

**CAA AD No:** 2692 PRE 80

**Associated Material:** 438

**Description:** To prevent fouling of operative cable attachment clamps on the starter switches.

**Applicability – Compliance – Requirement**

Supersedes Mod. No. 383. Not applicable when Mod. No. 358 (to reposition starter switches and move starter plug) is embodied.

**CAA AD No:** 2693 PRE 80

**Associated Material:** 446

**Description:** Introduction of modified engine mounting rear foot.

**Applicability – Compliance – Requirement**

To be carried out in accordance with Handley Page (Reading) Limited, Service Instruction Gemini/14. Not applicable to Mark 3A or 3B.

**CAA AD No:** 2694 PRE 80

**Associated Material:** 461

**Description:** Introduction of undercarriage retraction switches.

**Applicability – Compliance – Requirement:** -

**CAA AD No:** 2695 PRE 80

**Associated Material:** R and W 047

**Description:** Introduction of redesigned connecting bar on undercarriage switches.

**Applicability – Compliance – Requirement**

Western Manufacturing (Reading) Limited, Service Instruction Gemini/24 refers. Rotax D5506 Dual Pole Switch is an acceptable alternative.

**CAA AD No:** 2696 PRE 80

**Associated Material:** 462

**Description:** Introduction of starter isolation switch.

**Applicability – Compliance – Requirement:** -

**CAA AD No:** 2697 PRE 80

**Associated Material:** 465

**Description:** Replacement of plastic rudder bar parallel motion links by metal.

**Applicability – Compliance – Requirement**

To be carried out in accordance with Handley Page (Reading) Limited, Service Instruction Gemini/17.

**CAA AD No:** 2698 PRE 80

**Associated Material:** 467

**Description:** Drilling of fuel tank filler caps, and alterations to vent and drain pipes.

**Applicability – Compliance – Requirement**

To be carried out in accordance with Handley Page (Reading) Limited, Service Instruction Gemini/18.

**CAA AD No:** 2699 PRE 80

**Associated Material:** 476

**Description:** Introduction of six 1/4" diameter bolts (three each side of nacelle) in lieu of 2 BA bolts securing the rear nacelle/wing attachment brackets.

**Applicability – Compliance – Requirement**

To be carried out in accordance with Handley Page (Reading) Limited, Service Instruction Gemini/20.

**CAA AD No:** 2700 PRE 80

**Associated Material:** R & W 936

**Description:** Introduction of strengthened fork end to flap jacks.

**Applicability – Compliance – Requirement**

To be carried out in accordance with Western Manufacturing (Reading) Limited Service Instruction Gemini/23. Any one of the following approved modifications is acceptable:

Simpson's Aeroservices Mod. SA/M 20 – replacement for original faulty Acme thread fork ends.

Simpson's Aeroservices Mod. SA/M 21 – replacement for original faulty square thread fork ends.



**CAAAD No:** 2701 PRE 80

**Associated Material:** –

**Description:** Inspection and rework of the flap jack mounting (Part No. 3838262) on the rear face of Frame 7.

**Applicability – Compliance – Requirement**

To be carried out in accordance with Handley Page (Reading) Limited, Service Instruction Gemini/12.

**CAAAD No:** 2702 PRE 80

**Associated Material:** –

**Description:** Inspection of vent and drain connections on fuel tanks at periods of flying time not exceeding 150 hours.

**Applicability – Compliance – Requirement**

To be carried out in accordance with Handley Page (Reading) Limited, Service Instruction Gemini/19.

**CAAAD No:** 2703 PRE 80

**Associated Material:** –

**Description:** Inspection of rudder bar pedals to ensure correct assembly and prevent fouling.

**Applicability – Compliance – Requirement**

To be carried out in accordance with Handley Page (Reading) Limited, Service Instruction Gemini/21.

**CAAAD No:** 2704 PRE 80

**Associated Material:** –

**Description:** Inspection of Alleron Outer Hinge Bearing Housing.

**Applicability – Compliance – Requirement**

Western Manufacturing (Reading) Limited, Service Instruction Gemini/27 refers.

**CAAAD No:** 2705 PRE 80

**Associated Material:** Airworthiness Notice No. 82 (Now CAP 747, Section 2, Part 3, GR No. 4)

**Description:** Electrical Generation System – Warning of loss of generated electrical power.

**Applicability – Compliance – Requirement**

Compliance required as detailed in Airworthiness Notice.

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**(2) Percival Prentice**

UK National Airworthiness Directives previously published in CAP 476 – Mandatory Aircraft Modifications and Inspections Summary

**CAA AD No:** 1470 PRE 80

**Associated Material:** ATEL SB/1

**Description:** Ultrasonic crack detection of Hymatic type B13 air bottles.

**Applicability – Compliance – Requirement**

Applicable to all Civil Prentice aircraft. Compliance required within three months of receipt of Service Bulletin.

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## (2) Percival Proctor and Vega Gull

UK National Airworthiness Directives previously published in CAP 476 – Mandatory Aircraft Modifications and Inspections Summary

**CAA AD No:** 1471 PRE 80

**Associated Material:** 130

**Description:** Strengthened attachment ribs to aileron false spar.

### **Applicability – Compliance – Requirement**

Applicable only to Proctor Mark I and Vega Gull aircraft. This modification need only be embodied if the attachment of the ribs to the false spar is defective.

**CAA AD No:** 1472 PRE 80

**Associated Material:** 199

**Description:** Strengthened attachment airscoop baffle.

### **Applicability – Compliance – Requirement**

Applicable only to Proctor Mark I and Vega Gull aircraft.

**CAA AD No:** 1473 PRE 80

**Associated Material:** 210

**Description:** Drain holes in rear fuselage.

### **Applicability – Compliance – Requirement**

Applicable only to Proctor Mark I and Vega Gull aircraft.

**CAA AD No:** 1474 PRE 80

**Associated Material:** 215

**Description:** Wire reinforced control column gaiter.

### **Applicability – Compliance – Requirement**

Applicable only to Proctor Mark I and Vega Gull aircraft.

**CAA AD No:** 1475 PRE 80

**Associated Material:** 218

**Description:** Introduction of additional manifold drain.

### **Applicability – Compliance – Requirement**

Applicable only to Proctor Mark I and Vega Gull aircraft. Complementary to DH Mod. No. G1152 which must be embodied at the same time.

**CAA AD No:** 1476 PRE 80

**Associated Material:** 590

**Description:** Strengthened attachment ribs to aileron false spar.

**Applicability – Compliance – Requirement**

Applicable only to Proctor Mark II and Mark III aircraft. *This modification need only be embodied if the attachment of the ribs to the false spar is defective.*

**CAA AD No:** 1477 PRE 80

**Associated Material:** 659

**Description:** Strengthened attachment airscoop baffle.

**Applicability – Compliance – Requirement**

Applicable only to Proctor Mark II and Mark III aircraft.

**CAA AD No:** 1478 PRE 80

**Associated Material:** 676

**Description:** Drain holes in rear fuselage.

**Applicability – Compliance – Requirement**

Applicable only to Proctor Mark II and Mark III aircraft.

**CAA AD No:** 1479 PRE 80

**Associated Material:** 685

**Description:** Wire reinforced control column gaiter.

**Applicability – Compliance – Requirement**

Applicable only to Proctor Mark II and Mark III aircraft.

**CAA AD No:** 1480 PRE 80

**Associated Material:** 687

**Description:** Introduction of gauze filter to fuel tanks having serial numbers prefixed by the letters GSM.

**Applicability – Compliance – Requirement**

Applicable only to Proctor Mark I, Mark II and Mark III and Vega Gull aircraft.

**CAA AD No:** 1481 PRE 80

**Associated Material:** 689

**Description:** Introduction of additional manifold drain.

**Applicability – Compliance – Requirement**

Applicable only to Proctor Mark II and Mark III aircraft. Complementary to DH Mod. No. G1152, which must be embodied at the same time.

**CAA AD No:** 1482 PRE 80

**Associated Material:** 1141

**Description:** Introduction of gauze filter to fuel tanks having serial numbers prefixed by the letters GSM.

**Applicability – Compliance – Requirement**

Applicable only to Proctor Mark IV and Mark V aircraft.

**CAA AD No:** 1483 PRE 80

**Associated Material:** 1143

**Description:** Introduction of additional manifold drain.

**Applicability – Compliance – Requirement**

Applicable only to Proctor Mark IV and Mark V aircraft. Complementary to DH Mod. No. G1152 which must be embodied at the same time.

**CAA AD No:** 1484 PRE 80

**Associated Material:** C1171

**Description:** Introduction to Battery Master switch.

**Applicability – Compliance – Requirement**

Applicable to all Proctor and Vega Gull aircraft in accordance with Notice to Licensed Aircraft Engineers and to Owners of Civil Aircraft No. 33.

**CAA AD No:** 1485 PRE 80

**Associated Material:** C1175

**Description:** Introduction of new type fuel tank vent.

**Applicability – Compliance – Requirement**

Applicable only to Proctor Mark IV and Mark V aircraft.

**CAA AD No:** 1486 PRE 80

**Associated Material:** C1204

**Description:** Locking bottom pin, front spar wing attachment joint.

**Applicability – Compliance – Requirement**

Applicable only to Proctor Mark I, Mark II, Mark III, Mark IV and Mark V aircraft. Modification need only be embodied if, owing to wear in the locking mechanism, the lower main attachment pin can be withdrawn from the front spar rear attachment plates while in the locked position.

**CAAAD No:** 1487 PRE 80

**Associated Material:** C1205

**Description:** Locking top pin, front spar attachment.

**Applicability – Compliance – Requirement**

Applicable only to Proctor Mark I, Mark II, Mark III, Mark IV and Mark V aircraft. This modification need only be embodied if, owing to manufacturing discrepancies, the wing gap between the centre section nose and the outer plane is too large to ensure that the top pin cannot rotate and partly withdraw.

**CAAAD No:** 1488 PRE 80

**Associated Material:** C1206

**Description:** Flying control pulleys in rear fuselage.

**Applicability – Compliance – Requirement**

Applicable only to Proctor Mark IV and Mark V aircraft.

**CAAAD No:** 1489 PRE 80

**Associated Material:** C1207

**Description:** Cabin door jettisoning label.

**Applicability – Compliance – Requirement**

Applicable only to Proctor Mark I, Mark II, Mark III, Mark IV and Mark V aircraft.

**CAAAD No:** 1490 PRE 80

**Associated Material:** C1255

**Description:** Reinforcement of centre plane spars.

**Applicability – Compliance – Requirement**

Applicable only to Proctor Mark IV and Mark V aircraft.

**CAAAD No:** 1491 PRE 80

**Associated Material:** C1228

**Description:** Strengthening of the attachment of the elevator lever to the rocking tube.

**Applicability – Compliance – Requirement**

Applicable to Proctor Mark II and Mark III aircraft. To be carried out in accordance with Percival Aircraft Limited, Civil Technical Instruction No. 3.



**CAA AD No:** 1492 PRE 80

**Associated Material:** C1229

**Description:** Strengthening of the attachment of the elevator lever to the rocking tube.

**Applicability – Compliance – Requirement**

Applicable to Proctor Mark I and Vega Gull. To be carried out in accordance with Percival Aircraft Ltd, Civil Technical Instruction No. 2.

**CAA AD No:** 1493 PRE 80

**Associated Material:** C1236

**Description:** Introduction of strengthening aileron mass balance arm.

**Applicability – Compliance – Requirement**

Applicable to all Marks. To be carried out in accordance with Civil Technical Instruction No. 4.

**CAA AD No:** 1494 PRE 80

**Associated Material:** C1246

**Description:** Maximum permissible speed – Introduction of cockpit data plate, etc.

**Applicability – Compliance – Requirement**

Applicable all Proctor aircraft. Compliance required by 1 November 1961. Hunting Aircraft Civil Technical Instruction No. 13 refers.

**CAA AD No:** 1495 PRE 80

**Associated Material:** –

**Description:** Inspection of laminated spar booms.

**Applicability – Compliance – Requirement**

Applicable only to Proctor Mark IV and Mark V aircraft. To be carried out in accordance with Percival Aircraft Limited, Civil Technical Instruction No. 2.

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**(1) Piper PA-28 and PA-32**

Civil Aviation Authority  
**AIRWORTHINESS  
 DIRECTIVE**



**Number: G-2021-0002R1**

**Issue date: 03 June 2021**

Note: In this Airworthiness Directive, references to EU regulations are to those regulations as retained and amended in UK domestic law under the European Union (Withdrawal) Act 2018 and are referenced "UK Regulation (EU) year/number or UK Regulation (EU) No. number/year".

**This Airworthiness Directive (AD) is issued by the UK CAA as the National Aviation Authority (ICAO Annex 8 Authority of State of Registry) for the affected product(s).**

**In accordance with UK Regulation (EU) 2018/1139, the following action required by this AD is mandatory for applicable aircraft registered in the United Kingdom. No person may operate an aircraft to which an AD applies except in accordance with the requirements of that AD unless otherwise agreed with the Authority of the State of Registry.**

**This AD is issued in accordance with UK Regulation (EU) No. 748/2012, Part 21.A.3B. In accordance with UK Regulation (EU) No. 1321/2014 Annex I, Part M.A.301 or Annex Vb, Part ML.A.303 as applicable, the continuing airworthiness of an aircraft shall be ensured by accomplishing any applicable ADs. Consequently, no person may operate an aircraft to which an AD applies, except in accordance with the requirements of that AD, unless otherwise specified by the CAA [UK Regulation (EU) No. 1321/2014 Annex I, Part M.A.303 or Annex Vb, Part ML.A.303 as applicable] or agreed with the CAA [UK Regulation (EU) 2018/1139, Article 71 exemption].**

Design Approval Holder's Name: <b>Piper Aircraft Inc.</b>	Type/Model Designation(s): <b>PA-28 and PA-32 aeroplanes</b>
<b>TCDS:</b>	<b>EASA.IM.A.234 and USA (FAA TCDS) 2A13 for PA-28; EASA.IM.A.239 and (FAA TCDS) A3SO for PA-32.</b>
<b>Foreign AD:</b>	<b>Federal Aviation Administration (FAA) <a href="#">AD2020-26-16</a> dated 15 January 2021.</b>
<b>Supersedure:</b>	For affected aeroplanes operated on the UK Registry, this AD supersedes the State of Design AD, FAA AD 2020-26-16 which is not adopted.
<b>Revision:</b>	<b>This AD revises UK AD G-2021-0002 dated 21 April 2021.</b>
<b>ATA 57</b>	<b>Wings – Lower Main Wing Spar Caps – Inspection</b>
<b>Manufacturer(s):</b>	Piper Aircraft, Inc. (Piper), formerly The New Piper Aircraft, Inc., Piper Aircraft Corporation

<b>Applicability:</b>	This AD applies to the following aeroplanes, identified by model, commercial name(s) and serial numbers (s/n):	
	<b>Model (commercial name)</b>	<b>S/No.</b>
	PA-28-151 (Warrior)	All
	PA-28-161 (Warrior II)	All
	PA-28-161 (Warrior III)	All, except s/n 2842006
	PA-28-161 (Cadet)	All
	PA-28-181 (Archer II and Archer III)	All
	PA-28-235 (Cherokee Pathfinder)	All
	PA-28R-180 (Arrow)	All
	PA-28R-200 (Arrow)	All
	PA-28R-200 (Arrow II)	All, except s/n 28R-7235151
	PA-28R-201 (Arrow III)	All, except s/n 2844029, 2844030, 2844081, 2844125, 2844136, 2844147 to 2844151 inclusive, 28R-7737078, 28R-7737142, 28R-7837108, 28R-7837125 and 28R-7837257
	PA-28R-201T (Turbo Arrow III)	All
	PA-28RT-201 (Arrow IV)	All
	PA-28RT-201T (Turbo Arrow IV)	All
	PA-32-260 (Cherokee Six 260)	All
	PA-32-300 (Cherokee Six 300)	All
	PA-32R-300 (Lance)	All
	PA-32RT-300 (Lance II)	All, except s/n 32R-7985004
	PA-32RT-300T (Turbo Lance II)	All

<b>Definitions:</b>	<p>For the purpose of this AD, the following definitions apply:</p> <p><b>FH:</b> Flight hours (FH) is the accumulated time of the spar (installed on the aeroplane) with the highest number of FH since its first installation on an aeroplane, between the moments when an aeroplane moved under its own power for the purpose of flight and the moments when the aeroplane came to a full stop after landing (total FH of all flights).</p> <p><b>EFSH:</b> EASA factored service hours (EFSH) are those calculated in accordance with the formula specified in Figure 1 of this AD.</p> <p><b>TIS:</b> With respect to maintenance time records, time-in-service (TIS) means the accumulated time of the spar (installed on the aeroplane) with the highest number of hours since its first installation on an aeroplane, between the moments an aeroplane took off and the moments it touched down (total TIS of all flights). In the case TIS records are unreliable or not available, e.g. because maintenance records have been kept with reference to FH, the use of FH is acceptable for the calculation of the average annual aeroplane usage and EFSH.</p> <p><b>AAU:</b> Average annual utilisation (AAU) of an aeroplane is the TIS of that aeroplane, divided by the number of calendar years after the aeroplane's year of manufacture (data plate).</p> <p><b>The SB:</b> Piper Service Bulletin (SB) No. 1345.</p> <p><b>The FAA AD:</b> Federal Aviation Administration (FAA) <a href="#">AD2020-26-16</a> dated 15 January 2021.</p>
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Civil Aviation Authority Airworthiness Directive

SARG

<b>Reason:</b>	<p>An occurrence was reported of a wing separation on a PA-28R-201 aeroplane. Subsequent investigation results determined that the event was caused by fatigue cracking in a visually inaccessible area of the lower main wing spar cap.</p> <p>This condition, if not detected and corrected, could lead to similar accidents.</p> <p>Prompted by these findings, Piper issued the SB, providing instructions to inspect the main wing spar caps and, if cracks are found, to replace the main wing spar. Consequently, the FAA issued AD 2020-26-16, applicable to aeroplanes that have accumulated 5 000 hours' TIS or more; or have a main wing spar replaced with a used (instead of new) main wing spar; or for which maintenance records are missing or incomplete, and requiring calculation of 'factored service hours', determined by the number of 100 hours inspections or annual inspections that have been accomplished on a main wing spar since new. Based on the outcome of the factored service hours, that AD requires a one-time Eddy-Current (EC) inspection of the inner surface of the two lower outboard bolt holes on the lower main wing spar cap for cracks and, depending on findings, replacement of the main wing spar with a new main wing spar, or a used main wing spar that has passed (no cracks found) an EC inspection in accordance with steps 1 to 3 (inclusive) of the instructions of the SB.</p> <p>Following a joint CAA/EASA review of the FAA AD, it was determined that, since in Europe there is no legal distinction and documentation requirement between the accomplishment of 100-hours inspections and annual inspections, depending on the operation of the aeroplane, the FAA calculation method for FSH is inappropriate for the affected aeroplanes operated under EU regulations. Based on this determination, EASA/CAA have decided not to adopt the FAA AD.</p> <p>For the reasons described above, CAA issued UK AD G-2021-0002 to require repetitive calculations of AAU and EFSH, as defined in this AD and, depending on the results, an eddy current (EC) inspection of the main wing spar caps for cracks and, depending on findings, replacement of the affected main wing spar. This AD also requires reporting the inspection results to CAA, the FAA and Piper. Appendix 2 of this AD includes a flowchart to assist operators to determine which action is required and when, and also provides some examples of calculation.</p> <p>Since that AD was issued, several reports have indicated that the required EFSH calculation was not done, incorrectly done, or the inspection was accomplished before accumulating the necessary 5 000 EFSH. Accomplishment of an inspection before reaching this threshold does not meet the intent of UK AD G-2021-0002. This also means that the repetitive calculations must be continued, and another inspection accomplished once the 5 000 EFSH threshold is reached. This AD is revised for awareness and clarification by introducing a note. An additional note was also included clarifying inspections carried out in accordance with FAA AD 2020-26-12 before the UK AD was issued.</p> <p>This AD is considered to be an interim action and further AD action may follow.</p>
<b>Effective Date:</b>	<p><b>Revision 1: 10 June 2021</b>  <b>Original Issue: 3 May 2021</b></p>

<p><b>Required Action(s) and Compliance Time(s):</b></p>	<p>Required as indicated, unless accomplished previously:</p> <p><b>Review of Maintenance Records and Calculation(s):</b></p> <p>(1) Within 30 days after 03 May 2021 [the effective date of the original issue of this AD], and, thereafter, during each 100-hours or annual inspection, as applicable, review the aeroplane maintenance records for completeness and determine whether a wing or wing spar has been replaced with a wing or wing spar that had more than zero hours' TIS at the time of installation.</p> <p>(2) If, as result of any review as required by paragraph (1) of this AD, it is determined that a wing spar has accumulated or exceeded 5 000 hours' TIS, within 30 days after 03 May 2021 [the effective date of the original issue of this AD], or after that review, whichever occurs later, calculate the AAU, as defined in this AD.</p> <p>(3) If the result of the calculation as required by paragraph (2) of this AD is 100 (TIS/year) or more, before next flight, calculate the EFSH by using the formula specified in Figure 1 of this AD.</p> <p>Figure 1 – EFSH Calculation</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <math display="block">\text{EFSH} = [\text{TIS} - (100 \times \text{Years})] + [(100 \times \text{Years}) / 15]</math> </div> <p><b>Inspection:</b></p> <p>(4) If, as a result of the calculation as required by paragraph (3) of this AD, the EFSH are determined to be 5 000 or more (see Note 1 of this AD), within 100 hours after accumulating 5 000 EFSH, or within 100 hours after the effective date of this AD, whichever occurs later, accomplish an EC inspection of the inner surface of the two lower outboard bolt holes on the lower main wing spar cap for cracks. If the wing is installed, use steps 1 to 3 (inclusive) of the instructions of the SB or, if the wing is not installed, use step 3 of the instructions of the SB.</p> <p><b>Note 1:</b> Results of EC inspections accomplished early before reaching the calculated (as required) threshold of 5 000 EFSH, whilst providing useful data, are not acceptable to demonstrate compliance with the inspection as required by paragraph (4) of this AD. The wing spars should therefore be inspected once the 5 000 EFSH threshold is met in order to comply with this AD.</p> <p><b>Note 2:</b> For aircraft with 5000 hours TIS, or incomplete maintenance records, or where either or both of the wing spars exceed the inspection criteria in (4) above, if the inspections detailed in the SB have been completed in the period 16 February 2021 to 3 May 2021 in accordance with FAA AD 2020-26-16, the inspection elements of this CAA AD have been complied with.</p> <p>(5) If, as result of the first review as required by paragraph (1) of this AD, maintenance records are found to be incomplete (i.e. unknown whether a wing spar has been installed with more than zero hours' TIS), or spar/aeroplane TIS or FH are unknown, within 100 hours after the effective date of this AD, accomplish an EC inspection of the inner surface of the two lower outboard bolt holes on the lower main wing spar cap for cracks. If the wing is installed, use steps 1 to 3 (inclusive) of the instructions of the SB or, if the wing is not installed, use step 3 of the instructions of the SB.</p> <p><b>Wing Spar Replacement:</b></p> <p>(6) If, during the EC inspection as required by paragraph (4) or (5) of this AD, as applicable, any crack is detected that exceeds the acceptance criteria of the SB, before next flight, replace the main wing spar with a new (zero TIS) main wing spar, or with a serviceable (more than zero TIS) main wing spar that, before installation, has passed an EC inspection (no cracks detected) in accordance with steps 1 to 3 (inclusive) of the instructions of the SB.</p> <p>Replacement of a main wing spar can be accomplished in accordance with the instructions of Piper Service Letter (SL) 997.</p>
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Civil Aviation Authority Airworthiness Directive

SARG

<b>Required Action(s) and Compliance Time(s):</b>	<p><b>Bolt Replacement:</b></p> <p>(7) Before next flight after the EC inspection as required by paragraph (4) or (5) of this AD, as applicable, or during the main wing spar replacement as required by paragraph (6) of this AD, as applicable, install new bolts in accordance with step 6 of the instructions of the SB.</p> <p><b>Reporting:</b></p> <p>(8) Within 30 days after the EC inspection as required by paragraph (4) or (5) of this AD, as applicable, report the inspection results to CAA, the FAA and to Piper Aircraft.</p> <p>This can be accomplished by using Appendix 1 (Inspection Results Form) of this AD and the contact information found on that Form.</p>
<b>Reference Publications:</b>	<p>Piper SB 1345 dated 27 March 2020.</p> <p>Piper SL 997 dated 14 May 1987.</p>
<b>Remarks:</b>	<ol style="list-style-type: none"> <li>1. If requested and appropriately substantiated, CAA can approve Alternative Methods of Compliance for this AD.</li> <li>2. The original issue of this AD was posted on 12 March 2021 as PAD 1977 for consultation until 09 April 2021.</li> <li>3. Enquiries regarding this AD should be referred to the CAA General Aviation Unit. E-mail: <a href="mailto:GA@caa.co.uk">GA@caa.co.uk</a></li> <li>4. Information about any failures, malfunctions, defects or other occurrences, which may be similar to the unsafe condition addressed by this AD, and which may occur, or have occurred on a product, part or appliance not affected by this AD, can be reported to the <a href="#">EU aviation safety reporting system</a>. This may include reporting on the same or similar components, other than those covered by the design to which this AD applies, if the same unsafe condition can exist or may develop on an aircraft with those components installed. Such components may be installed under an FAA Parts Manufacturer Approval (PMA), Supplemental Type Certificate (STC) or other modification.</li> <li>5. For any question concerning the technical content of the requirements in this AD, please contact: Piper Aircraft, Inc., 2926 Piper Drive, Vero Beach, Florida 32960, United States of America; Telephone: +1 772-299-2141; E-mail: <a href="mailto:CustomerService@piper.com">CustomerService@piper.com</a>; Website: <a href="https://www.piper.com/contact-us/">https://www.piper.com/contact-us/</a> or <a href="https://www.piper.com/technical-publications">https://www.piper.com/technical-publications</a>.</li> </ol>



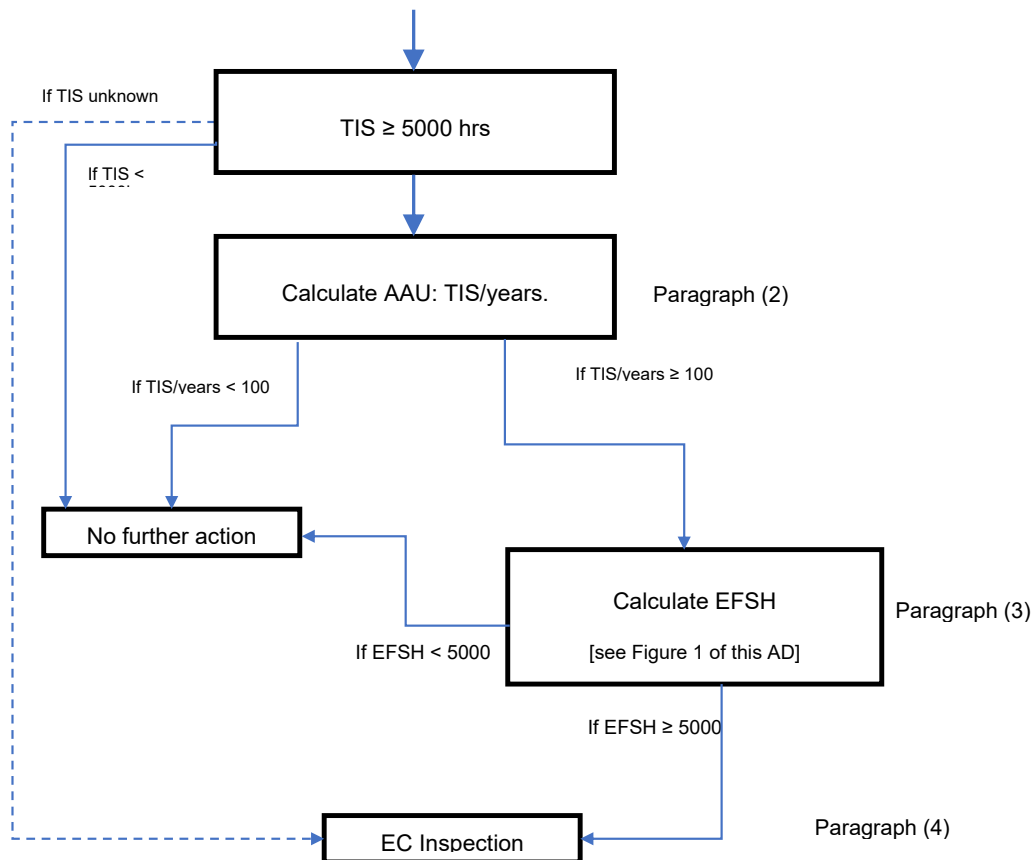
Civil Aviation Authority Airworthiness Directive

SARG

**Appendix 1**

<b>Inspection Results Form</b>	
E-mail completed from to: <a href="mailto:9-ASO-ATLCOS-Reporting@faa.gov">9-ASO-ATLCOS-Reporting@faa.gov</a> and <a href="mailto:customer.service@piper.com">customer.service@piper.com</a> and <a href="mailto:GA@caa.co.uk">GA@caa.co.uk</a>	Or mail to: Federal Aviation Administration Atlanta ACO Brach, AIR-7A1 1701 Columbia Avenue College Park, GA 30337 and Piper Certification Office 2926 Piper Drive Vero Beach, FL 32960
SUBJECT LINE: Docket No. FAA- 2018-1046	
<b><i>Include Photos, if applicable</i></b>	
Aircraft Model: PA-	Serial Number:
Aircraft Total TIS:            or FH:	Registration:
<b>EASA FSH</b> – LH Wing:	RH Wing:
(if both wings are factory installed original, these numbers should be the same)	
<b>Inspection Results</b>	
LH Wings Spar FWD: Accepted <input type="checkbox"/> Rejected <input type="checkbox"/>	RH Wings Spar FWD: Accepted <input type="checkbox"/> Rejected <input type="checkbox"/>
LH Wing Spar AFT:    Accepted <input type="checkbox"/> Rejected <input type="checkbox"/>	RH Wing Spar AFT:    Accepted <input type="checkbox"/> Rejected <input type="checkbox"/>
<b>Inspector Comments (observed damage, condition of hole, etc.)</b>	
<b>Inspector Information:</b>	
Name (print):	Signature:
Certificate No.:	Date:

## Appendix 2 - Flowchart / Examples of Calculation



### Example 1:

For an a/c with 8 years in service and 700 hours TIS (TIS=700), the results would be:

1. Paragraph (2):  $TIS/years = 700/8 = 87,5 < 100 \rightarrow$  no action required.

### Example 2:

For an a/c with 8 years in service and 3000 hours TIS Hours (TIS=3000), the results would be:

1. Paragraph (2):  $TIS/years = 3\ 000/8 = 375 > 100 \rightarrow$  go to paragraph (3);
2. Paragraph (3):  $EFSH = (3000 - 100 \times 8) + (100 \times 8) / 15 = 2\ 253 < 5000 \rightarrow$  no further action

### Example 3:

For an a/c with 8 years in service and 6000 hours TIS (TIS=6000), the results would be:

1. Paragraph (2):  $TIS/Age = 750 > 100 \rightarrow$  go to paragraph (3);
2. Paragraph (3):  $EFSH = (6000 - 100 \times 8) + (100 \times 8) / 15 = 5253 \rightarrow$  go to paragraph (4).

Example of calendar years: For an aeroplane that was manufactured in 1989, 1990 is the first calendar year to be counted, and the full year before calculation would be the last, so (at this time, in 2021) the number would be 31.

## (2) Rollason Druine Condor

UK National Airworthiness Directives previously published in CAP 476 – Mandatory Aircraft Modifications and Inspections Summary

**CAA AD No:** 2460 PRE 80

**Associated Material:** RAE/TNS/D62/3

**Description:** Securing of loose seat cushions.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Compliance required as detailed in TNS.

**CAA AD No:** 2461 PRE 80

**Associated Material:** RAE/TNS/D62/12

**Description:** Inspection for heavy landing damage.

**Applicability – Compliance – Requirement**

Applicable to all aircraft. Compliance required every 50 flying hours. RAE/TNS/D62/10 also refers.

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## (1) Scheibe Series Motor Gliders

### 1 CAA Additional Airworthiness Directives

#### 1.1 001-07-82

##### Description

Inspection of wing centre joint and additional limitations.

##### Applicability – Compliance – Requirement

Applicable to SF25 and SF28 Series motor gliders and Slingsby T61A, B, C and D motor gliders.

Compliance is required as detailed below.

1 Before further flight after receipt of this Directive:

**NOTE:** Aircraft inspected to CAA AD 003-06-82 or Slingsby T1 103/T61 will be deemed to be in compliance with this paragraph.

1.1 a) With the main rigging pin pulled fully upwards by means of the Tee handle, such that the safety pin is hard against the lower face of the top boom lug fitting establish that the plain untapered portion of main pin shank protrudes below the port bottom boom lug fitting.

b) If difficulty is encountered in establishing paragraph 1.1 a) inspection, due to poor access the wings must be removed and port wing inspected in accordance with paragraph 1.1 a).

1.2 Should no plain untapered shank be visible protruding below the port bottom boom lug fitting the aircraft shall not fly until the cause has been established, and rectified.

1.3 Establish whether more than one safety pin hole exists in the main pin. If more than one safety pin hole exists the aircraft must not be flown until the correct hole has been established by compliance with inspection to paragraph 1.1 a) or 1.1 b) and the redundant hole made unusable.

2 At Each Rigging:

**NOTE:** Aircraft inspected to CAA AD 003-06-82 or Slingsby T1 103/T61 will be deemed to be in compliance with this paragraph.

2.1 Accomplish the inspection contained in paragraph 1.1 a) or 1.1 b). Extreme care must be exercised when aligning the fittings to ensure that the lugs are not splayed during mainplane rigging, following inspection to 1.1 b).

2.2 Should no plain untapered shank be visible protruding below the port bottom boom lug fitting the aircraft shall not fly until the cause has been established, and rectified.

3 Inform Slingsby Aviation if:


3.1 Plain portion of pin does not protrude.

3.2 Additional safety pin hole exists.

3.3 Any damage likely to have a detrimental effect upon the airworthiness of the aircraft is found.

- 4 Additional Flight Limitations:
  - 4.1 Turns steeper than 60° angle of bank, Loops, Chandelles, Spins or winch launches are prohibited on aircraft fitted with:
    - 4.1.1 Main pin No. 653B–51–514.
    - 4.1.2 Main pin with bottom end radius greater than 3 mm.
    - 4.1.3 Main pin with more than one safety locking pin hole or where the safety locking pin hole exceeds .125" diameter.
    - 4.1.4 Safety locking pins made from less than 12 SWG (.104") piano wire (spring steel).
  - 4.2 A placard prohibiting manoeuvres stated in paragraph 4.1 shall be installed in full view of the pilot(s) if any of the conditions contained in 4.1.1, 4.1.2 or 4.1.3 and 4.1.4 are not met.
  - 4.3 If compliance under 4.1 permits aerobatic manoeuvres the aircraft shall be placarded in accordance with Airworthiness Notice No 51, Issue 1, paragraphs 3.2 and 3.3 and it is strongly recommended that an accelerometer red-lined at +3.5g be fitted in this event.

**(2) All Scottish Aviation Bulldog Aircraft**

	<b>United Kingdom Civil Aviation Authority</b>	<b>AIRWORTHINESS DIRECTIVE</b>
		<b>AD No: G-2008-0004</b> Issue Date: 20 February 2008
<p>This AD is issued by the UK CAA as the National Aviation Authority (ICAO Annex 8 Authority of State of Design) for the affected product(s).</p> <p>In accordance with Article 10 of the Air Navigation Order 2005 as amended the following action required by this Airworthiness Directive (AD) is mandatory for applicable aircraft registered in the United Kingdom.</p> <p>No person may operate an aircraft to which an AD applies except in accordance with the requirements of that AD unless otherwise agreed with the Authority of the State of Registry.</p>		
<b>Type Approval Holders Name:</b> <b>DE HAVILLAND SUPPORT LIMITED</b>		<b>Type/Model Designation(s):</b> <b>ALL SCOTTISH AVIATION BULLDOG AIRCRAFT</b>
<b>Type Certificate Data Sheet No:</b> BA7		
<b>Superseded AD:</b> None		
<b>ATA 32 - MAIN LANDING GEAR RADIUS ARMS – NDT INSPECTION</b>		
<b>Manufacturer(s):</b> Scottish Aviation Ltd		
<b>Applicability:</b> All Scottish Aviation Bulldog aircraft which have accumulated 5000 flying hours or greater.		
<b>Reason:</b> Fatigue cracks have been found in main landing gear (MLG) radius arms of Scottish Aviation Bulldog aircraft during NDT inspection. To minimise the risk of catastrophic failure of MLG radius arms in service, a repetitive NDT inspection requirement has now been introduced which is applicable to all series and models of Scottish Aviation Bulldog aircraft.		
<b>Effective Date:</b> 16 July 2008		
<b>Compliance/Action:</b> Compliance required as detailed in Bulldog Service Bulletin BDG/100/172.		
<b>Reference Publications:</b> de Havilland Support Limited Bulldog Service Bulletin BDG/100/172 may be obtained from de Havilland Support Limited, Building 213, Duxford Airfield, Cambridgeshire, CB2 4QR, England. Telephone: +44 (0) 1223 830090 Fax: +44 (0) 1223 830085 Email: info@dhsupport.com		
<b>Remarks:</b> Enquiries regarding this Airworthiness Directive should be referred to Aircraft Certification Department, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Telephone: +44 (0)1293 573292 Fax: +44 (0) 1293 573976 Email: department.certification@caa.co.uk		

## (2) Scottish Aviation Bulldog Series 100 and 120 Aircraft

UK National Airworthiness Directives previously published in CAP 476 – Mandatory Aircraft Modifications and Inspections Summary

CAA AD No: 2365 PRE 80

Associated Material: BDG/100/27

Description: *Equipment/Furnishings* – Modification No. BH 72 to pilot's and co-pilot's seat back locating plungers.

Applicability – Compliance – Requirement

Applicable to Series 100 Models 101 and 104. Should have been accomplished by 30 April 1974.

CAA AD No: 2366 PRE 80

Associated Material: BDG/100/96

Description: *Engine Fuel and Control* – Bendix Fuel Injector System with Bellows type body seal.

Applicability – Compliance – Requirement

Applicable to all Series 100 and 200 aircraft. Compliance required as detailed in Avco Lycoming Service Bulletin No 428.

CAA AD No: 004-07-81

Associated Material: SB 100/103

Description: *Wings* – Inspection of undercarriage attachment lugs – Port and Starboard – Main spar centre section.

Applicability – Compliance – Requirement

Applicable to all Series 100 and 120 aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 006-07-84

Associated Material: BDG/100/127

Description: *Fuselage* – Cracking of angle diaphragm and flange at tailplane spar attachment.

Applicability – Compliance – Requirement

Applicable to all Series 100 and 120 aircraft. Compliance required as detailed in Service Bulletin.



CAA AD No: 006-01-85  
Associated Material: BDG/100/143  
Description: *Flight Controls* – Pilot’s rudder torque tubes – Failure at lever hub weld.  
Applicability – Compliance – Requirement  
Applicable to all Series 100 and 120 aircraft. Compliance required as detailed in SB.

CAA AD No: 009-04-87  
Associated Material: BDG/100/153  
Description: *Flight Controls* – Control rod end fittings – Security of attachment.  
Applicability – Compliance – Requirement  
Applicable to all Series 100 and 120 aircraft. Compliance required as detailed in SB.

CAA AD No: 028-04-90  
Associated Material: BDG/100/156  
Description: *Flight Controls* – Inspection of handgrip fitting on control column.  
Applicability – Compliance – Requirement  
Applicable to all Series 100 and 120 aircraft. Compliance required as detailed in SB.

CAA AD No: 002-11-91  
Associated Material: BDG/100/162  
Description: *Flight Controls* – Corrosion of elevator torque tubes.  
Applicability – Compliance – Requirement  
Applicable to Series 100 and 120 aircraft. Compliance required as detailed in SB.

CAA AD No: 006-12-94  
Associated Material: BDG/100/165  
Description: *Mainplanes* – Notification of life limitation for main-spar joint.  
Applicability – Compliance – Requirement  
Cancelled and superseded by AD 003-12-96.

CAA AD No: 004-10-95  
Associated Material: BDG/100/167  
Description: *Landing Gear* – Brake system – Foot brake controls – To inspect the brake torque-tube assemblies.  
Applicability – Compliance – Requirement  
Applicable to all Series 100 and 120 aircraft. Compliance required as detailed in SB.

CAA AD No: 001-08-96  
Associated Material: BDG/100/28  
Description: Canopy jettison cable assembly (Pre Mod BH 76).

Applicability – Compliance – Requirement

Applicable to all Series 100 and 120 aircraft. Compliance required as detailed in SB.

CAA AD No: 002-08-96

Associated Material: BDG/100/92

Description: *Fuselage/Mainplane* – Cracking at or near bolt holes of mainplane to fuselage lower joint plate assemblies.

Applicability – Compliance – Requirement

Applicable to all Bulldog aircraft without modification no BH193 embodied. Compliance required as detailed in SB. Aircraft on which Bulldog modification no BH193 (SB BDG-100-166, CAA AD 004-07-2001 refer) has been embodied no longer have to comply with the mandatory inspections called for by SB BDG-100-92.

CAA AD No: 003-08-96

Associated Material: BDG/100/123

Description: Engine mounting cracking.

Applicability – Compliance – Requirement

Applicable to all Series 100 and 120 aircraft. Compliance required as detailed in SB.

CAA AD No: 003-12-96

Associated Material: BDG/100/170

Description: Notification of life limitation of aircraft.

Applicability – Compliance – Requirement

Applicable to all Series 100 and 120 aircraft. Compliance required as detailed in SB.

CAA AD No: 002-06-2001

Associated Material: BDG/121/1

Description: Conversion of Bulldog T Mk I aircraft to civil aircraft Model 121.

Applicability – Compliance – Requirement

Applicable to Bulldog T Mk I aircraft constructors numbers 199 to 223, 230 to 238, 240 to 249, 253 to 277, 285 to 297, 303 to 337 and 341 to 363. Compliance required as detailed in SB.

CAA AD No: 004-07-2001

Associated Material: BDG/100/166

Description: *Wings* – Introduction of strengthening to the centre section of the main spar.

Applicability – Compliance – Requirement

Applicable to all Bulldog aircraft with the exception of constructors number BH/120/201.  
Compliance required as detailed in SB.

## (2) Scottish Aviation Twin Pioneer

UK National Airworthiness Directives previously published in CAP 476 – Mandatory Aircraft Modifications and Inspections Summary

CAA AD No: 2427 PRE 80

Associated Material: C162

Description: Re-design of wing bracing strut internal 'Vee' brace in outer wing.

Applicability – Compliance – Requirement

This modification has been embodied in all aircraft during construction.

CAA AD No: 2428 PRE 80

Associated Material: C285

Description: *Hydraulic Power* – Introduction of strengthened gland Part No. 717924 in lieu of gland Part No. 717918 in piston-operated shuttle valve Part No. 7179.

Applicability – Compliance – Requirement

Applicable to all Series aircraft. Compliance required before completion of 750 landings.

CAA AD No: 2429 PRE 80

Associated Material: C311

Description: *Wings* – Introduction of lift strut incorporating multi-bolt attachments for stabilising strut.

Applicability – Compliance – Requirement

*Wings* – Introduction of lift strut incorporating Applicable to all Series aircraft. Should have been embodied by 30 September 1959.

CAA AD No: 2430 PRE 80

Associated Material: C319

Description: *Wings* – Introduction of stabilising strut Part No. SA.B3.20.334 in lieu of Part No.SA.B3.20.243.

Applicability – Compliance – Requirement

Applicable to all Series aircraft. Should have been embodied by 30 September 1959.

CAA AD No: 2431 PRE 80

Associated Material: C324

Description: Introduction of tube insert type throttle and CSU wrapped boxes in console and replacement of Teleflex transmission cable DS380 with brittle tested transmission cable DS380. (TeleflexMod. 14298 refers.)

Applicability – Compliance – Requirement

Applicable to aircraft Serial No. 507, 508, 513, 517 and 519. Compliance required as detailed in modification leaflet.

CAA AD No: 2432 PRE 80

Associated Material: C334

Description: Introduction of Cadmium plating on lift strut steel fittings and incorporation of Ferrobestos bushes at bolted joints.

Applicability – Compliance – Requirement

Applicable to all Series aircraft. Should have been embodied by 31 August 1959.

CAA AD No: 2433 PRE 80

Associated Material: C344

Description: Replacement of 380 Wrapped Box Assembly and Teleflex transmission cable for the throttle and CSU control, on control console assembly Part No. E41560. (Teleflex Mod. 14341 refers.)

Applicability – Compliance – Requirement

Applicable to aircraft Serial Nos. 501, 502, 504 and 505. Compliance required as detailed in modification leaflet.

CAA AD No: 2434 PRE 80

Associated Material: C347

Description: Introduction of Cadmium plating on special bolts on undercarriage 'Vee' brace and trunnion at top of Oleo leg.

Applicability – Compliance – Requirement

Applicable to all Series aircraft. Should have been embodied by 31 August 1959.

CAA AD No: 2435 PRE 80

Associated Material: C403

Description: Introduction of slat jack, Electro-Hydraulics Part No. 4477 in lieu of Part No. 4694. (Electro-Hydraulics Mod. No. EH/95/Mod 7 refers.)

Applicability – Compliance – Requirement

Applicable to aircraft Serial No. 507 and subsequent. Compliance required as detailed in modification leaflet.

CAA AD No: 2436 PRE 80

Associated Material: C441

Description: Replacement of throttle and CSU control box and wheel assembly and the replacement of Teleflex transmission cable with Teleflex brittle-tested transmission cable. (Teleflex Mod. 14338 refers.)

Applicability – Compliance – Requirement

Applicable to aircraft Serial Nos. as detailed in modification leaflet. Compliance required as detailed in modification leaflet.

CAA AD No: 2437 PRE 80

Associated Material: C580

Description: Introduction of strengthened flap jack Part No.4464 in lieu of Part No. 4476. (Electro-Hydraulics Mod. No. EH/95/Mod 9 refers.)

Applicability – Compliance – Requirement

Applicable to aircraft Serial No. 507 and subsequent. Compliance required as detailed in modification leaflet.

CAA AD No: 2438 PRE 80

Associated Material: C598

Description: Introduction of Shackles (between undercarriage and fuselage) Part Nos. SA.B740.40 and SA.B740.42 in lieu of Part Nos. SA.B3.40.26 and SA.B3.40.27.

Applicability – Compliance – Requirement

Applicable to all Series aircraft. Compliance required not later than 1200 flight hours.

CAA AD No: 2439 PRE 80

Associated Material: C680

Description: Introduction of Ice Guard on CSU Swivel Assembly.

Applicability – Compliance – Requirement

Applicable to Series 1 and 3 aircraft. Should have been embodied by 31 December 1959.

CAA AD No: 2440 PRE 80

Associated Material: C719

Description: Introduction of Washer Part No. SP 18G to elevator connection on port control column.

Applicability – Compliance – Requirement

Applicable to all Series aircraft. Should have been embodied by 31 July 1959.

CAA AD No: 2441 PRE 80

Associated Material: C729

Description: Introduction of Brake Unit AH51417 in lieu of AH50743.

Applicability – Compliance – Requirement

Applicable to Series 1,2 and 3 aircraft. Should have been embodied by 30 January 1960.

CAA AD No: 2442 PRE 80

Associated Material: C735

Description: Introduction of 2" wide protection strips on lift strut replacing .85" wide strips.

Applicability – Compliance – Requirement

Applicable to all Series aircraft. Should have been embodied 31 March 1959.

CAA AD No: 2443 PRE 80

Associated Material: C759

Description: Introduction of Bearing Plate fireproof Bulkhead at Engine Mount Fittings.

Applicability – Compliance – Requirement

Applicable to Series 1,2 and 3 aircraft. Compliance required at next engine change or check 4 inspection or on embodiment of repair scheme SA.B3.03.863.

CAA AD No: 2444 PRE 80

Associated Material: C808

Description: Replacement of all axle bracket and sliding tube assemblies of undercarriage Part No. 1705, Serial Nos. 1–36 inclusive.

Applicability – Compliance – Requirement

Applicable to undercarriage units as detailed. Should have been embodied by 31 March 1960.

CAA AD No: 2445 PRE 80

Associated Material: C860

Description: Introduction of an inspection hole in the control column.

Applicability – Compliance – Requirement

Applicable to Series 1, 2 and 3 aircraft. Should have been embodied by 1 December 1960.

CAA AD No: 2446 PRE 80

Associated Material: C928

Description: Introduction of main wheel AH 51805 in lieu of AH 50742. (Dunlop Mod. 3776.)

Applicability – Compliance – Requirement

Applicable to Series 1, 2 and 3 aircraft. Should have been embodied by 1 August 1961.

CAA AD No: 2447 PRE 80  
Associated Material: C960  
Description: Introduction of Mills Equipment Modification ME/2 on Passenger Seat Belts Type ME/1789.

Applicability – Compliance – Requirement

Applicable to Series 1, 2 and 3 aircraft. Should have been embodied by 1 March 1962.

CAA AD No: 2448 PRE 80  
Associated Material: C965  
Description: Introduction of PTFE covered strips and washers on wing lift strut in way of stabilizer strut fitting.

Applicability – Compliance – Requirement

Applicable to Series 1, 2 and 3 aircraft. Should have been embodied by 1 June 1962.

CAA AD No: 2449 PRE 80  
Associated Material: C979  
Description: Cockpit Windows – Introduction of filler strips manufactured in PVC in lieu of neoprene.

Applicability – Compliance – Requirement

Applicable to Series 1, 2 and 3 aircraft. Should have been embodied by 1 June 1964.

CAA AD No: 2450 PRE 80  
Associated Material: C988  
Description: Installation of fair leads in way of aileron cables under cockpit floor.

Applicability – Compliance – Requirement

Applicable to Series 1, 2 and 3 aircraft. Should have been embodied by 15 June 1964.

CAA AD No: 2451 PRE 80  
Associated Material: C989  
Description: Automatic Pilot – Introduction of Emergency Cut-out Control.

Applicability – Compliance – Requirement

Applicable to Series 1 and 3 aircraft. Should have been embodied by 1 August 1965.

CAA AD No: 2452 PRE 80  
Associated Material: Scottish Aviation TNS 22  
Description: Inspection and life limitation of bolted attachments of wings, main landing gear and tailplane.

Applicability – Compliance – Requirement

Applicable to all Series aircraft. Compliance required as detailed in TNS.



CAA AD No: 2453 PRE 80  
Associated Material: Scottish Aviation TNS 26  
Description: Inspection of heat exchange unit intensifier tube.  
Applicability – Compliance – Requirement  
Applicable to Series 1 and 2 aircraft. Compliance required as detailed in TNS.

CAA AD No: 2454 PRE 80  
Associated Material: Scottish Aviation TNS 33  
Description: Mandatory Life Limitations.  
Applicability – Compliance – Requirement  
The limitations listed in the Technical News Sheet are mandatory for aircraft on the United Kingdom Register.

CAA AD No: 2455 PRE 80  
Associated Material: Scottish Aviation TNS 36  
Description: Rework of lap straps to increase safety standard.  
Applicability – Compliance – Requirement  
Applicable to all Series aircraft. Compliance required as detailed in TNS.

CAA AD No: 2456 PRE 80  
Associated Material: Scottish Aviation TNS 42  
Description: Inspection of wing attachment main lift strut.  
Applicability – Compliance – Requirement  
Applicable to all Series aircraft. Compliance required as detailed in TNS.

CAA AD No: 2457 PRE 80  
Associated Material: Scottish Aviation TNS 45  
Description: Inspection and repair of nacelle longeron at engine mount attachment.  
Applicability – Compliance – Requirement  
Applicable to all Series aircraft. Compliance required as detailed in TNS.

CAA AD No: 2458 PRE 80  
Associated Material: Scottish Aviation TNS 50  
Description: Improved method of adjustment for excessive clearance of flap push-pull rods to drive sprockets.  
Applicability – Compliance – Requirement  
Applicable to all Series aircraft. Compliance required as detailed in TNS.

CAA AD No: 2459 PRE 80



Associated Material: Airworthiness Notice No. 82 (Now CAP 747, Section 2, Part 3, GR No. 4)

Description: Electrical Generation System – Warning of loss of generated electrical power.

Applicability – Compliance – Requirement

Applicable to all Series aircraft. Compliance required as detailed in Airworthiness Notice.

**(2) Slingsby T61**

<b>Civil Aviation Authority</b>		
	<b>AIRWORTHINESS DIRECTIVE</b>	
<b>Number: G-2018-0001</b>		
<b>Issue date: 12 February 2018</b>		
<p>This Airworthiness Directive (AD) is issued by the UK CAA as the National Aviation Authority (ICAO Annex 8 Authority of State of Design for the affected product(s)).</p> <p>In accordance with Article 39(1) of The Air Navigation Order 2016, as amended, the following action required by this AD is mandatory for applicable aircraft registered in the United Kingdom. No person may operate an aircraft to which an AD applies except in accordance with the requirements of that AD unless otherwise agreed with the Authority of the State of Registry.</p>		
Type Approval Holder's Name:	Type/Model Designation(s):	
<b>Slingsby Sailplanes / Vickers Slingsby / Slingsby Engineering Ltd., (&amp; TRA held by British Gliding Association (BGA))</b>	<b>Slingsby T61</b>	
<b>TCDS:</b>	N/A	
<b>Supersedure:</b>	N/A	
<b>ATA 05 &amp; 51</b>	<b>Revised Fatigue and Service Life Limitations</b>	
<b>Manufacturer(s):</b>	Slingsby Sailplanes / Vickers Slingsby / Slingsby Engineering Ltd	
<b>Applicability:</b>	Slingsby T61A, Slingsby T61C Falke, Slingsby T61E and T61F Venture T Mk 2, Slingsby T61G Falke approved in any category* (see Compliance / Action foot-note).	
<b>Reason:</b>	<p>This AD has been raised to mandate revised fatigue lives that are applicable to the range of T61 variants.</p> <p>CAA Airworthiness Approval Note (AAN) 29458 developed by the British Gliding Association (BGA) has, with the assistance of Acro Aeronautical, completed a structural survey and developed revised fatigue life data, which results in the removal of the 15 year fatigue life previously applicable to Slingsby T61E, F and G variants and introduced new life limits on all the T61 variants identified in AAN 29458 i.e. as applicable to Slingsby T61A, Slingsby T61C Falke, Slingsby T61E and T61F Venture T Mk 2, and Slingsby T61G Falke.</p> <p>Operation beyond the demonstrated safe fatigue lives poses an unsafe condition due to the increased probability of fatigue damage contributing to potential catastrophic failure of primary structural components.</p>	
<b>Effective Date:</b>	<b>12 February 2018</b>	

Civil Aviation Authority Airworthiness Directive

SARG

<b>Compliance/Action:</b>	<p>From the effective date of this AD, compliance with the revised replacement and retirement lives contained in BGA "Aircraft Inspection Mandatory, Life extension inspection schedule" Number: 057/10/2015 Issue 1 Working Instructions Parts B and Part C is mandatory.</p> <p>These lives were approved in AAN 29458 and include mandatory replacement periods for the wing spigots of 30,000 flight cycles and 39,000 flight cycles retirement life for the airframe itself, (at which point the aircraft must be retired from service).</p> <p>* Note: his AD is applicable to aircraft holding a Certificate of Airworthiness and to those holding a Permit to Fly (PtoF). For aircraft issued with a PtoF – <a href="#">Mandatory Permit Directive 1995-001 R5</a> provides the basis that makes compliance with this AD mandatory.</p>
<b>Reference Publications:</b>	<p><a href="#">CAA AAN 29458</a>, Acro Aeronautical report AAS 2252 Issue 2 and BGA "Aircraft Inspection Mandatory, Life extension inspection schedule" Number: 057/10/2015 Issue 1 or later issue.</p>
<b>Remarks:</b>	<ol style="list-style-type: none"> <li>1. This AD was posted on 30 November 2017 as PAD 1976 for consultation until 12 January 2018.</li> <li>2. Enquiries regarding this Airworthiness Directive should be referred to: GA Unit, Civil Aviation Authority, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex RH6 0YR.</li> </ol> <p>Tel: +44 (0)1293 573988 E-mail: <a href="mailto:ga@caa.co.uk">ga@caa.co.uk</a></p>

## (2) SNCAN Stampe et Renard and Aerospatiale Stampe SV4 Series Aircraft

### 1 CAA Additional Airworthiness Directives

#### 1.1 011-03-88 Rev 1

##### Description

Replacement life of lower mainplane centre section tie-rods.

##### Applicability – Compliance – Requirement

Applicable to all Stampe SV4 Series aircraft.

Compliance is required before further flight for aircraft with tie-rods that have flown in excess of 100 hours. Aircraft may be flown for a positioning flight to a place where the inspection and, if necessary, replacement of the tie-rods required by this Directive is to be performed.

Inspect the aircraft to identify the type of tie-rods fitted. Replacement tie-rods must be fitted in accordance with a) to d) below:

- a) Tie-rods positively identified as being to the standard required by Aerospatiale Service Bulletin Stampe No 1: Part No. SV4A-S.1500.05 with rolled 10 mm x 1.5 mm threads and equipped with nuts Part No. SV4A-S.1500.06 and whose threads can be seen to be in good undamaged condition over the whole of their lengths, may remain in service for a total life of 500 flying hours. Tie-rods manufactured to Aerospatiale/Stampe drawings by Bruntons Aero Products come into this category.
- b) Tie-rods positively identified as being in compliance with:
  - i) Rollason Aircraft and Engines Ltd Modification WAR 210 issue 1 (3/8" BSF rolled threads).
  - ii) Rollason Aircraft and Engines Ltd Modification WAR 210 issue 2 (10 mm x 1.5 mm cut threads) may, if the threads can be seen to be in good undamaged condition over the whole of their lengths, remain in service for a total life of 100 flying hours.
- c) Tie-rods that cannot be identified positively as a) or b) above, or whose lives cannot be determined, must be replaced before further flight.
- d) Tie-rods must be installed and tightened in accordance with the instructions in Aerospatiale Service Bulletin Stampe No 1. If washers are used under the nuts, spring washers must not be used.

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**(2) Trago Mills SAH 1 Series Aircraft**

UK National Airworthiness Directives previously published in CAP 476 – Mandatory Aircraft Modifications and Inspections Summary

**CAAAD No:** 004-01-86

**Associated Material:** Maintenance Manual

**Description:** Mandatory Life Limitations.

**Applicability – Compliance – Requirement**

The limitations listed in Section 2 of the Maintenance Manual are mandatory for aircraft on the United Kingdom Register.

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## (2) Westland Bell 47 Series Helicopters

UK National Airworthiness Directives previously published in CAP 476 – Mandatory Aircraft Modifications and Inspections Summary

**CAA AD No:** 2293 PRE 80

**Associated Material:** SIC47G-4A-22-1

**Description:** *Main rotor* – Gimbal ring – limitation of service life.

### **Applicability – Compliance – Requirement**

Applicable to all Westland Bell 47G-4A. Compliance as detailed in SIC.

**CAA AD No:** 2294 PRE 80

**Associated Material:** SIC47G-4A-23-1

**Description:** *Tail rotor blade* – Introduction of improved blade.

### **Applicability – Compliance – Requirement**

Applicable to all Westland Bell 47G-4A. Compliance as detailed in SIC.

**CAA AD No:** 2295 PRE 80

**Associated Material:** CAA letter refs 9/31/RWE 608 dated 28-10-76 and 9-11-76

**Description:** 1 Inspection of Tail Rotor Drive Gear Assembly Part No 47-620-568-1 for backlash and end float. 2 Replacement of Bearings Part No 47-620-556-1.

### **Applicability – Compliance – Requirement**

Applicable to all Westland Bell 47G-3B1. Inspection to be carried out daily. To be carried out within 100 hours flying from 1 November 1976, or at the next 600 hours flying inspection, whichever occurs first.

**CAA AD No:** 2296 PRE 80

**Associated Material:** CAA letter ref. 9/31/RWE608 dated 15-4-77

**Description:** 1 Inspection of tail rotor gear box drive shaft Part No 47-645-216-5. 2 Inspection of main rotor gimbal ring pillowblock pin Part No 47-120-141-2. 3 Inspection of main rotor head pitch control support and swash plate assembly link plate Part No 47-150-252-1.

Note: These above inspections apply to ex-military Agusta Bell 47G-3B1.

### **Applicability – Compliance – Requirement**

All Westland Bell 47G-3B1 which have not complied with Bell Service Bulletin 47-76-2 or Agusta Technical Bulletin 47-120. To be carried out at 25 flying hour intervals. All Westland Bell 47G-3B1. To be carried out by 15 June 1977. All Westland Bell 47G-3B1. To be carried out by 15 May 1977.

**CAAAD No:** 2297 PRE 80

**Associated Material:** –

**Description:** –

**Applicability – Compliance – Requirement**

All FAA or RAI Airworthiness Directives and CAA Additional Directives applicable to Bell and Agusta Bell 47 Series are also applicable to Westland Bell 47 Series, as appropriate.

**CAAAD No:** 039-04-83

**Associated Material:** Maintenance and Overhaul Instructions

**Description:** Mandatory Life Limitations

**Applicability – Compliance – Requirement**

The limitations listed in the Maintenance & Overhaul Instructions are mandatory for aircraft on the United Kingdom Register.

# Engines

## (2) Alvis Leonides Engines

UK National Airworthiness Directives previously published in CAP 476 – Mandatory Aircraft Modifications and Inspections Summary

**CAA AD No:** 1467 PRE 80

**Associated Material:** 57

**Description:** Restricted boost gauge connection.

**Applicability – Compliance – Requirement**

Applicable to Series 501 and 502. Compliance required before flight.

**CAA AD No:** 1468 PRE 80

**Associated Material:** 60

**Description:** Strengthened clutch cover.

**Applicability – Compliance – Requirement**

Applicable to Series 524/1. Compliance required before flight.

**CAA AD No:** 1469 PRE 80

**Associated Material:** Leonides Major 114 SU Mod 1172

**Description:** Introduction of fuel injection pump, type SUX 801.

**Applicability – Compliance – Requirement**

Applicable to Leonides Major 755/1 engines in Westland S55 Series 2 helicopter. Compliance required before flight.

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## (2) Rolls Royce (Bristol Siddeley) Cheetah Engines

UK National Airworthiness Directives previously published in CAP 476 – Mandatory Aircraft Modifications and Inspections Summary

**CAA AD No:** 1457 PRE 80

**Associated Material:** E792

**Description:** Auxiliary drive shaft oil hole deleted.

**Applicability – Compliance – Requirement**

Applicable to types 9, 15 and 19 installed in Anson aircraft only. Compliance required before flight.

**CAA AD No:** 1458 PRE 80

**Associated Material:** E722

**Description:** Improved air intake heater muff.

**Applicability – Compliance – Requirement**

Applicable to type 10 only. Compliance required before flight.

**CAA AD No:** 1459 PRE 80

**Associated Material:** E763

**Description:** Strengthened air intake heater muff clamping straps.

**Applicability – Compliance – Requirement**

Applicable to types 9, 10, 19, 15 and 17. Not applicable when Mods. E793 and E800 are fitted. Compliance required before flight.

**CAA AD No:** 1460 PRE 80

**Associated Material:** E769

**Description:** Alteration of jet sizes when air cleaner cowlings installed.

**Applicability – Compliance – Requirement**

Applicable to type 9 with Modifications E740, 744 and 745 embodied. Compliance required before flight.

**CAA AD No:** 1461 PRE 80

**Associated Material:** E786

**Description:** Deletion of slow running pressure balance duct.

**Applicability – Compliance – Requirement**

Applicable to types 9, 10, 15 and 19 with Claudel Hobson type AV70M or ME carburettors. Compliance required before flight.

**CAA AD No:** 1462 PRE 80

**Associated Material:** E809

**Description:** Protective gauze screens for hot and cold air intake.

**Applicability – Compliance – Requirement**

Applicable to types 9, 10, 19, 15 and 17. Compliance required before flight.

**CAA AD No:** 1463 PRE 80

**Associated Material:** E820

**Description:** New Magneto timing (port 19° BTDC) (stbd. 21° BTDC).

**Applicability – Compliance – Requirement**

Applicable to types 15 and 17. Compliance required before flight.

**CAA AD No:** 1464 PRE 80

**Associated Material:** E832

**Description:** Increased capacity auxiliary rear scavenge pump.

**Applicability – Compliance – Requirement**

Applicable to types 15, 17, 9, 10 and 19 (only if Heywood Compressor is fitted). Compliance required before flight.

**CAA AD No:** 1465 PRE 80

**Associated Material:** E834

**Description:** Higher range main jet and deletion of power valve cam.

**Applicability – Compliance – Requirement**

Applicable to type 15 with Claudel Hobson carburettor type AV70MG fitted. Compliance required before flight.

## (2) Rolls Royce (De Havilland) Cirrus Engines

UK National Airworthiness Directives previously published in CAP 476 – Mandatory Aircraft Modifications and Inspections Summary

### (2) Cirrus Minor II and IIA

**CAA AD No:** 1746 PRE 80

**Associated Material:** 687, 688 and 689

**Description:** Diameter of propeller front plate increased. Length of propeller spinner reduced. Diameter of propeller hub sleeve flange increased.

#### **Applicability – Compliance – Requirement**

Applicable when wooden propellers are fitted. Service instruction J10 refers. Compliance required before flight.

**CAA AD No:** 1747 PRE 80

**Associated Material:** 1243

**Description:** Introduction of steel distance pieces on cylinder holding down studs.

#### **Applicability – Compliance – Requirement**

Service instruction J20 and J20A refers. Compliance required before flight.

**CAA AD No:** 1748 PRE 80

**Associated Material:** 1288

**Description:** Conversion of Rotax vacuum pump from type M0105 to M0106.

#### **Applicability – Compliance – Requirement**

Service instruction J22/G5 refers. Compliance required before flight.

**CAA AD No:** 1749 PRE 80

**Associated Material:** 1609

**Description:** Carburettor enrichment valve diaphragm in improved material.

#### **Applicability – Compliance – Requirement**

Service instruction J30 refers. Compliance required before flight.

**(2) Cirrus Major II and III**

**CAA AD No:** 1750 PRE 80

**Associated Material:** 446/447

**Description:** Serrated type propeller hub and front plate introduced.

**Applicability – Compliance – Requirement**

Compliance required before flight.

**CAA AD No:** 1751 PRE 80

**Associated Material:** 710 or 2032

**Description:** Simms vernier magneto coupling in softer material.

**Applicability – Compliance – Requirement**

Service instruction G1 refers. Compliance required before flight.

**CAA AD No:** 1752 PRE 80

**Associated Material:** 734

**Description:** Piston type oil pump, rotor diameter revised.

**Applicability – Compliance – Requirement**

Applicable to piston type oil pumps prior to Part No. GC 1601/12. (GC 1601/12 and later stroke number incorporate these Mods.) Service instruction G2 refers. Compliance required before flight.

**CAA AD No:** 1753 PRE 80

**Associated Material:** 885

**Description:** Piston type oil pump, piston diameter revised.

**Applicability – Compliance – Requirement**

Applicable to piston type oil pumps prior to Part No. GC 1601/12. (GC 1601/12 and later stroke number incorporate these Mods.) Service instruction G2 refers. Compliance required before flight.

**CAA AD No:** 1754 PRE 80

**Associated Material:** 912

**Description:** Piston type oil pump, main body port dimensions revised.

**Applicability – Compliance – Requirement**



**Cirrus Major II and III *continued*****CAAAD No:** 1755 PRE 80**Associated Material:** 923**Description:** Piston type oil pump, bush oil slot depth increased.**Applicability – Compliance – Requirement****CAAAD No:** 1756 PRE 80**Associated Material:** 1289**Description:** Conversion to Rotax vacuum pump from type M0105 to M0106.**Applicability – Compliance – Requirement**

Service instruction J22/G5 refers. Compliance required before flight.

## (2) Cirrus Engine Inspections

**CAA AD No:** 1757 PRE 80

**Associated Material:** 1

**Description:** Die cast cylinder head Part No. JD201. Inspection for cracks every 10 hours.

**Applicability – Compliance – Requirement**

Applicable to Minor II and IIA. Service instruction J19 and 19A refers.

**CAA AD No:** 1758 PRE 80

**Associated Material:** 2

**Description:** Amal type 120 fuel pump. Inspection of lower diaphragm washer every 50 hours or three months whichever is the longer until Mod 1645 Part 1 or 1668 Part 1 embodied.

**Applicability – Compliance – Requirement**

Applicable to Minor I, II and IIA. Service instruction F7/J35 refers.

**CAA AD No:** 1759 PRE 80

**Associated Material:** 3

**Description:** Crankshaft. Inspection for fatigue crack.

**Applicability – Compliance – Requirement**

Applicable to Minor II and IIA. Service instruction J14 refers.

**CAA AD No:** 1760 PRE 80

**Associated Material:** 4

**Description:** Zenith carburettor type FAIHB blanking plug.

**Applicability – Compliance – Requirement**

Applicable to Minor II and IIA. Service instruction J17 refers.

**CAA AD No:** 1761 PRE 80

**Associated Material:** 5

**Description:** Zenith carburettor main discharge assembly inspection.

**Applicability – Compliance – Requirement**

Applicable to Minor II and IIA. Service instruction J27 refers.

## **Cirrus Engine Inspections *continued***

**CAA AD No:** 1762 PRE 80

**Associated Material:** 6

**Description:** Crankshaft. Inspection of front end with approved penetrant detector every 200 hrs and after shock loading.

**Applicability – Compliance – Requirement**

Applicable to Minor I, II, IIA, Major II and III. Service instruction F1/G13/J36 refers.

**CAA AD No:** 1763 PRE 80

**Associated Material:** 7

**Description:** Piston type oil pump GC1601. Inspection for wear/damage on piston and rotor every 300 hours.

**Applicability – Compliance – Requirement**

Applicable to Major II and III. Service instruction G2 refers.

**CAA AD No:** 1764 PRE 80

**Associated Material:** 8

**Description:** Hobson carburettor type AI48GM1. Inspection for external cracks in main body every 10 hours until Mod. 2014 embodied.

**Applicability – Compliance – Requirement**

Applicable to Major II and III. Service instruction G8 refers.

**CAA AD No:** 1765 PRE 80

**Associated Material:** 9

**Description:** Amal type 136 fuel pump. Internal examination every 150 hours or 12 months whichever is the sooner.

**Applicability – Compliance – Requirement**

Applicable to Major II and III. Service instruction G10 refers.

**CAA AD No:** 1766 PRE 80

**Associated Material:** 10

**Description:** Amal type 136/AD/2 fuel pump. Check of cam shaft thread not later than 100 hours from 6 July 1957.

**Applicability – Compliance – Requirement**

Applicable to Major II and III. Service instruction G11 refers.

## **Cirrus Engine Inspections *continued***

**CAAAD No:** 1767 PRE 80

**Associated Material:** 11

**Description:** Cirrus Engine Controls – 50 hour inspection – Ball and Socket joints type EA 767/3.

(Note: This subject was previously covered by CAA Airworthiness Notice No. 23, which is now cancelled.)

### **Applicability – Compliance – Requirement**

Applicable to aircraft fitted with Cirrus Minor or Cirrus Major engines. Not exceeding 50 flight hours, inspect as detailed in paragraphs 1 to 5 inclusive.

- 1 Inspect all ball and socket joints type EA 767/3 and ensure that there is at least 1/16" clearance between the socket and the lever arm to which the threaded portion of the ball joint is attached.
- 2 Ensure that the control rods do not foul any adjacent structure or mechanism throughout their full range of movement.
- 3 Ensure that the screwed end of the control rod is safely in the socket, but does not protrude into the socket housing.
- 4 Ensure that the spring behind the inner concave pad in the socket is serviceable.
- 5 With the controls assembled, screw up the adjusting pad in each socket until the ball joint is clamped tight, then slacken off until the next split pin hole in the socket is in line with the slot in the adjustment pad. Under no circumstances should the adjustment pad be slackened more than 1/4 of a turn. Lock in the approved manner with 1/16" split pin.

## (2) Rolls Royce Continental Engines

UK National Airworthiness Directives previously published in CAP 476 – Mandatory Aircraft Modifications and Inspections Summary

**CAA AD No:** 0001 PRE 80

**Associated Material:** Marvel Schebler SB No. 12–60

**Description:** Additional cotter pin safety on the accelerator pump link.

### **Applicability – Compliance – Requirement**

Applies to all C90, 0–200 and 0–300 series engines. The Civil Aviation Authority requires compliance with this Bulletin as follows:

At the next 25 hour inspection after receipt of this publication determine whether the carburettor accelerator pump link has a cotter pin fitted at each end. If affirmative record this fact in the engine log book. If negative incorporate Marvel Schebler Service Bulletin 12–60 not later than the next 25 hour inspection and record compliance in the engine log book.

**CAA AD No:** 0002 PRE 80

**Associated Material:** FAA AD 72–6–5

**Description:** Inspect and safety wire throttle arm on Marvel Schebler carburettors.

### **Applicability – Compliance – Requirement**

Applies to Rolls-Royce Continental C90, 0–200, 0–240 and 0–300 engines in addition to Teledyne Continental engines.

**CAA AD No:** 0003 PRE 80

**Associated Material:** Rolls-Royce SBT200

**Description:** Oil pump drive gear backlash check and replacement.

### **Applicability – Compliance – Requirement**

Applies to C90, 0–200 and 0–300 series engines.

**CAA AD No:** 0004 PRE 80

**Associated Material:** Rolls-Royce SBT244/1

**Description:** Exhaust valve guide – Inspection for correct fitment.

### **Applicability – Compliance – Requirement**

Applicable to 0–200 and 0–300 series engines identified in the Bulletin.

**CAAAD No:** 0006 PRE 80

**Associated Material:** Rolls-Royce SB T363

**Description:** Crankcase – Identification, inspection and replacement.

**Applicability – Compliance – Requirement**

Applicable to IO-520A, B, BA, C, D, E, F, J, K, L and M; TSIO-520-B, C, D, E, G, H, J, K, L and N; GTSIO-520-C, D, F and H. Compliance as detailed in Service Bulletin.

**CAAAD No:** 0007 PRE 80

**Associated Material:** Rolls-Royce SB T375/1

**Description:** Flexible elbow TCM, Part No. 635930 – Separation from intake manifold elbows.

**Applicability – Compliance – Requirement**

Applicable to TSIO-520-J, TSIO-520-N series engines. Compliance as detailed in Service Bulletin.

**CAAAD No:** 0008 PRE 80

**Associated Material:** Rolls-Royce SB T398

**Description:** Aircraft/Engine certification.

**Applicability – Compliance – Requirement**

Applicable to O-240-A and E Model engines.

**CAAAD No:** 0009 PRE 80

**Associated Material:** Rolls-Royce SB T408

**Description:** Compliance with Slick Bulletin 1-80.

**Applicability – Compliance – Requirement**

Applicable to all models with Slick Models listed installed.

**CAAAD No:** 002-07-80

**Associated Material:** Rolls-Royce SB T416

**Description:** Crankshaft inspection.

**Applicability – Compliance – Requirement**

Applicable to O-240 engines and any crankshafts held as spares before fitment.

**CAAAD No:** 005-06-81

**Associated Material:** Rolls-Royce S.I.L. Cvr 1

**Description:** AC Fuel Pump Screen restriction.

**Applicability – Compliance – Requirement**

Applicable to C90, 0-200, 0-240 and 0-300 Series engines with AC Fuel Pumps Part No. 40585, 40695 or 631391 installed. INSPECT in accordance with Continental Aircraft Engine Service Bulletin M.81-8.

**CAAAD No:** 012-09-81

**Associated Material:** Rolls-Royce S.I.L. Cvr 2

**Description:** Oil pump drive gear nut.

**Applicability – Compliance – Requirement**

Applicable to IO-360C, D, G, H, J, K and TSIO-360C, D Series engines manufactured by Rolls-Royce Motors Ltd and identified by Serial Nos. 50R001 to 50R505 inclusive.

**CAAAD No:** 001-03-82

**Associated Material:** Rolls-Royce S.I.L. Cvr 3

**Description:** Crankshaft Inspection.

**Applicability – Compliance – Requirement**

Applicable to 0-240 Series engines. Engines subject to the repetitive inspections detailed in Service Bulletin T416/1 Section 8 will not be permitted to operate after 31 December 1982 unless a new crankshaft is fitted.

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## (2) Rolls Royce Gem Series Engines

UK National Airworthiness Directives previously published in CAP 476 – Mandatory Aircraft Modifications and Inspections Summary

**CAAAD No:** 006–08–92

**Associated Material:** SB 73–24

**Description:** *Engine Fuel and Control* – Hydromechanical fuel flow control unit – Inspection for fuel leakage and replacement of packing (sealing ring) and back-up retaining ring.

### **Applicability – Compliance – Requirement**

Applicable to Gem Mk 530 and 531 engines fitted on Westland 30 helicopters. Compliance required as detailed in Service Bulletin.

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## (2) Rolls Royce (De Havilland) Gipsy Engines

UK National Airworthiness Directives previously published in CAP 476 – Mandatory Aircraft Modifications and Inspections Summary

### Gipsy Major 1 (All Series) and Major 10 Mark 1

**CAA AD No:** 1768 PRE 80

**Associated Material:** 424, 2495, 2690 and TNS.G15

**Description:** Modified crankshaft. Crankshaft bearing locating sleeve. Sulphinuz treatment of crankshaft.

#### **Applicability – Compliance – Requirement**

Compliance required in accordance with Technical News Sheet G No. 8 (Major I) Technical News Sheet GM10 No. 11 (Major 10 Mark 1).

### Gipsy Queen 30 Series

**CAA AD No:** 1769 PRE 80

**Associated Material:** G2654

**Description:** Rotax starter type CO257.

#### **Applicability – Compliance – Requirement**

Applicable to Queen 30 Mark 2. Should have been embodied by 1 January 1962. MNSG2654 refers.

**CAA AD No:** 1770 PRE 80

**Associated Material:** G2925

**Description:** Shot peening of crankshaft where Mod. 2036(R267) or 2162 (R364) already embodied.

#### **Applicability – Compliance – Requirement**

Compliance required in accordance with Technical News Sheet GQ30 No. 70.

### Gipsy Queen 70 Series

**CAA AD No:** 1771 PRE 80

**Associated Material:** G1920

**Description:** Replacement of Klingerit joint washers by those of copper sheet.

#### **Applicability – Compliance – Requirement**

Applicable to Queen 70, 70–2, 70–3, 70–4. Compliance required before flight. MNSG1920 refers.

## Gipsy Engine Inspections

**CAA AD No:** 1772 PRE 80

**Associated Material:** 1

**Description:** Crankshaft. Inspection of front end for cracks.

### Applicability – Compliance – Requirement

Applicable to Major 1 Series and Major 10 Mark 1. Technical News Sheet G No. 8 and GM10 No. 11 refers.

**CAA AD No:** 1773 PRE 80

**Associated Material:** 2

**Description:** Crankshaft. Inspection of front end for cracks until Mod. 2925 embodied.

### Applicability – Compliance – Requirement

Applicable to Queen 30 Series embodying Mod. 2036 (R267) or 2162 (R364). Technical News Sheet GQ30 No. 70 refers.

**CAA AD No:** 1774 PRE 80

**Associated Material:** 3

**Description:** Carburettor power jet Part No. CH47979 and slow running jet plug Part No. CH69704. Inspection for distortion until Mod. 2601 embodied.

### Applicability – Compliance – Requirement

Applicable to Queen 30 Series. Technical News Sheet GQ30 No. 63 refers.

**CAA AD No:** 1775 PRE 80

**Associated Material:** 4

**Description:** Propeller shaft – Cracking.

### Applicability – Compliance – Requirement

Applicable to Queen 70 Series. Technical News Sheet GQ70 No. 105 refers.

**CAA AD No:** 1776 PRE 80

**Associated Material:** 5

**Description:** Pressure testing of induction manifold heater box.

### Applicability – Compliance – Requirement

Applicable to early type Gipsy engines TNS G No. 77 and Gipsy major engines TNS GM 10 N. 47. An inspection procedure has been devised and published by the engine manufacturer. This requires a pressure test to be made at the following intervals:

- 1 Within 60 days of receipt of the inspection procedure, then,
- 2 Annually, or
- 3 At any time rough running from an otherwise unexplained cause is experienced.

## Gipsy Engine Inspections continued

**CAAAD No:** 009-11-83

**Associated Material:** Gipsy Mod. 3014 Issue 2 and LTO 579

**Description:** *Fuel Control Unit* – Introduction of new Boost Capsule.

**Applicability – Compliance – Requirement**

Applicable to Gipsy Queen Series 70 engines. Compliance required as detailed in Hants and Sussex Modification News Sheet 3014 Issue 2.

**CAAAD No:** 007-06-89

**Associated Material:** Gipsy Mod. G4030

**Description:** *Fuel Pipe* – Fire resisting.

**Applicability – Compliance – Requirement**

Applicable to Gipsy Queen 2, 3, 3A Six I, Six IA and Six II engines. Compliance required as detailed in H&S Aviation Modification News sheet G4030 not later than 31 December 1989.

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## (2) Rolls Royce Gnome Engines

UK National Airworthiness Directives previously published in CAP 476 – Mandatory Aircraft Modifications and Inspections Summary

**CAA AD No:** 1777 PRE 80

**Associated Material:** 1115

**Description:** *Engine* – Reduction gearbox – Rear High speed shaft gear – bore chamfer reduced.

### **Applicability – Compliance – Requirement**

Should have been embodied in accordance with Service Bulletin No. 72–10.

**CAA AD No:** 1778 PRE 80

**Associated Material:** 1243

**Description:** *Engine Fuel and Control* – Thermister – Introduction of rubber sealing compound.

### **Applicability – Compliance – Requirement**

Should have been embodied in accordance with Service Bulletin No. 73–8.

**CAA AD No:** 1779 PRE 80

**Associated Material:** 1677 or 1244 Part 1

**Description:** *Engine* – Reduction gearbox – Oil feed pipe with flanged sleeve introduced.

### **Applicability – Compliance – Requirement**

Should have been embodied in accordance with Service Bulletin No. 72–221.

**CAA AD No:** 1780 PRE 80

**Associated Material:** 1754

**Description:** *Engine Fuel and Control* – improved over-speed trip governor.

### **Applicability – Compliance – Requirement**

Should have been embodied in accordance with Service Bulletin No. 73–150.

**CAA AD No:** 1781 PRE 80

**Associated Material:** 1974

**Description:** *Engine – Stage 1 and 2 turbine Wheels* – increase fillet radii at base of cooling-air plate spigot recesses.

### **Applicability – Compliance – Requirement**

Compliance required in accordance with Service Bulletin No. 72–251.

**CAA AD No:** 1782 PRE 80

**Associated Material:** 2121

**Description:** *Engine Fuel and Control* – Computer – design change.

**Applicability – Compliance – Requirement**

Applicability and compliance required as detailed in Alert Service Bulletin 73–A223.

**CAA AD No:** 1783 PRE 80

**Associated Material:** SB 72–A271

**Description:** *Engine* – Power turbine and exhaust – wire-locking of exhaust clamp.

**Applicability – Compliance – Requirement**

Applicable to Gnome MK 510 and 610 engines. Compliance as detailed in Service Bulletin.

**CAA AD No:** 1784 PRE 80

**CAA AD No:** SB 73–179

**Description:** Serviceability check of fuel pipe assembly Part No. 565817 or 565878.

**Applicability – Compliance – Requirement**

Applicable to Gnome H1000 Mark 501. Compliance required as detailed in Service Bulletin.

**CAA AD No:** 1785 PRE 80

**Associated Material:** SB 73–A229

**Description:** *Engine Fuel and Control* – fuel pump and flow control unit – blockage of hydro-mechanical governor filter.

**Applicability – Compliance – Requirement**

Applicability and compliance required as detailed in Alert Service Bulletin.

**CAA AD No:** 009–01–82

**Associated Material:** 72–A426

**Description:** *Engine* – Compressor Spool – Inspect.

**Applicability – Compliance – Requirement**

Applicable to Gnome engines as detailed in Service Bulletin. Compliance required as detailed in Service Bulletin.



**CAA AD No:** 005-05-83

**Associated Material:** 72-A386

**Description:** *Engine* – Combustion chamber fuel and burner manifold – Inspection for evidence of fretting.

**Applicability – Compliance – Requirement**

Applicable to Gnome engines as detailed in Service Bulletin. Compliance required as detailed in Service Bulletin.

**CAA AD No:** 008-11-85

**Associated Material:** 72-A465

**Description:** *Engine* – Power turbine wheel and shaft in Rex 448 material – Inspect.

**Applicability – Compliance – Requirement**

Applicable to Gnome engines as detailed in Service Bulletin. Compliance required as detailed in Service Bulletin.

**CAA AD No:** 002-01-87

**Associated Material:** 72-A474

**Description:** *Engine* – Coupling gearbox oil cooler. Oil return pipe damage.

**Applicability – Compliance – Requirement**

Applicable to Gnome engines as detailed in Service Bulletin. Compliance required as detailed in Service Bulletin.

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## (2) Rolls Royce Tyne Engines

UK National Airworthiness Directives previously published in CAP 476 – Mandatory Aircraft Modifications and Inspections Summary

**CAA AD No:** 2221 PRE 80

**Associated Material:** ASB Ty A-72-438

**Description:** *Engine* – Cooling Air Pipes – Cracking of High Pressure Cooling Air Manifold.

### **Applicability – Compliance – Requirement**

Applicable to Tyne 506 engines. Compliance required as detailed in Alert Service Bulletin.

**CAA AD No:** 2222 PRE 80

**Associated Material:** SB Ty 72-480

**Description:** *Engine* – Pipes and fittings – Introduction of two-piece HP cooling air manifold with butt welded flanges – Mod. 1118.

### **Applicability – Compliance – Requirement**

Applicable to Tyne 506 engines. Compliance required as detailed in Service Bulletin not later than 30 June 1978.

**CAA AD No:** 2223 PRE 80

**Associated Material:** ASB Ty A-72-438

**Description:** *Engine* – Cooling Air Pipes – Cracking of High Pressure Cooling Air Manifold.

### **Applicability – Compliance – Requirement**

Applicable to Tyne 512 engines. Compliance required as detailed in Alert Service Bulletin.

**CAA AD No:** 2224 PRE 80

**Associated Material:** SB Ty 72-480

**Description:** *Engine* – Pipes and fittings – introduction of two-piece HP cooling air manifold with butt welded flanges – Mod. 1118.

### **Applicability – Compliance – Requirement**

Applicable to Tyne 512 engines. Compliance required as detailed in Service Bulletin not later than 30 June 1978.

**CAA AD No:** 2225 PRE 80

**Associated Material:** ASB Ty 79-A18

**Description:** *Oil System* – HP turbine bearing scavenge oil temperature.

### **Applicability – Compliance – Requirement**

Applicable to Tyne 515 engines. Compliance required as detailed in Alert Service Bulletin.

**CAA AD No:** 2226 PRE 80

**Associated Material:** ASB Ty A-72-438

**Description:** *Engine* – Cooling Air Pipes – Cracking of High Pressure Cooling Air Manifold.

**Applicability – Compliance – Requirement**

Applicable to Tyne 515 engines. Compliance required as detailed in Alert Service Bulletin.

**CAA AD No:** 2227 PRE 80

**Associated Material:** SB Ty 72-480

**Description:** *Engine* – Pipes and fittings – Introduction of two-piece HP cooling air manifold with butt welded flanges – Mod. 1118.

**Applicability – Compliance – Requirement**

Applicable to Tyne 515 engines. Compliance required as detailed in Service Bulletin not later than 30 June 1978.

**CAA AD No:** 017-04-82

**Associated Material:** SB Ty 72-480

**Description:** *Engine* – Pipes and fittings – Introduction of two-piece HP cooling air manifold with butt welded flanges – Mod. 1118.

**Applicability – Compliance – Requirement**

Applicable to Tyne 515/101W engines. Compliance required as detailed in Service Bulletin.

**CAA AD No:** 026-04-89

**Associated Material:** SB Ty 72-744

**Description:** *Engine* – Reduction gear – Control of propeller shaft lives.

**Applicability – Compliance – Requirement**

Applicable to Tyne 515/101W engines. Compliance required as detailed in Service Bulletin.

**CAA AD No:** 027-04-89

**Associated Material:** SB Ty 72-745

**Description:** *Engine* – Reduction gear – Control of propeller shaft lives.

**Applicability – Compliance – Requirement**

Applicable to Tyne 506 and 512 engines. Compliance required as detailed in Service Bulletin.

**CAA AD No:** 028-08-89

**Associated Material:** SB Ty 72-746

**Description:** *Engine* – Reduction gear – Control of propeller shaft lives.

**Applicability – Compliance – Requirement**

Applicable to Tyne 515 engines. Compliance required as detailed in Service Bulletin.

**CAA AD No:** 001-03-90

**Associated Material:** SB Ty 72-751

**Description:** *Engine* – Incorrect hexagon nuts have been installed during assembly.

**Applicability – Compliance – Requirement**

Applicable to Tyne 506, 515 and 515/101W engines. Compliance required as detailed in Service Bulletin.

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## (2) Rolls Royce Viper Engines

UK National Airworthiness Directives previously published in CAP 476 – Mandatory Aircraft Modifications and Inspections Summary

**CAA AD No:** 0040 PRE 80

**Associated Material:** CV 3370 (Pre-Mod. CV 7136)

**Description:** Engine – Compressor – Introduction of lengthened compressor casing centre section joint flange.

### **Applicability – Compliance – Requirement**

Applicable to Viper Mk 520 and 521. Compliance required by 31 March 1971.

**CAA AD No:** 0041 PRE 80

**Associated Material:** 72–A69

**Description:** Engine – Introduction of inner exhaust cone with improved front diaphragm weld.

### **Applicability – Compliance – Requirement**

Applicable to Viper Mk 601–22. Compliance as detailed in Service Bulletin.

**CAA AD No:** 0042 PRE 80

**Associated Material:** 73–10

**Description:** Engine Fuel and Control – high pressure fuel pump.

### **Applicability – Compliance – Requirement**

Applicable to Viper Mk 601–22. Compliance required as detailed in Alert Service Bulletin.

**CAA AD No:** 0043 PRE 80

**Associated Material:** 73–A13

**Description:** Engine Fuel and Control – Servo to EPC tube unit – clearance between tube unit and HP cock operating rod.

### **Applicability – Compliance – Requirement**

Service Bulletin has been cancelled and the information incorporated in the Time Limits Section of Maintenance and Overhaul Manuals. Therefore the AD has been cancelled.

**CAA AD No:** 0044 PRE 80

**Associated Material:** 73–A15

**Description:** Engine Fuel and Control – HP fuel pump to automate thrust limiter – alignment check.

### **Applicability – Compliance – Requirement**

Applicable to Viper Mk 601–22. Compliance as detailed in Alert Service Bulletin.

**CAA AD No:** 0045 PRE 80

**Associated Material:** 73-A17 (CV 4323)

**Description:** Engine Fuel and Control – Fuel tubes – Introduction of a modified flexible fuel tube.

**Applicability – Compliance – Requirement**

Applicable to Viper Mk 601–22. Compliance required not later than 31 December, 1978.

**CAA AD No:** 0046 PRE 80

**Associated Material:** 73-A98

**Description:** Engine Fuel and Control – Servo to EPC tube unit – Clearance between tube unit and HP cock operating rod.

**Applicability – Compliance – Requirement**

Applicable to Viper Mk 521 and 522. Compliance required not later than 30 November, 1975.

**CAA AD No:** 0047 PRE 80

**Associated Material:** 75-A31

**Description:** Air – Compressor – Blow-off valve – valve seizure.

**Applicability – Compliance – Requirement**

Applicable to Viper Mk 521 and 522 Compliance required within 28 days from receipt of this Bulletin and at intervals not exceeding 300 hours thereafter.

**CAA AD No:** 0048 PRE 80

**Associated Material:** 75-A32

**Description:** Air – Blow-off Valve – revised operating limit.

**Applicability – Compliance – Requirement**

Applicable to Viper Mk 521 and 522. Compliance required not later than 30 June 1979.

**CAA AD No:** 0049 PRE 80

**Associated Material:** 73-A101

**Description:** Engine Fuel and Control – Inspection of fuel pump blanking plugs and connections.

**Applicability – Compliance – Requirement**

Applicable to Viper Mk 520, 521 and 522. Compliance required as detailed in Alert Service Bulletin.



**CAA AD No:** 020-06-80

**Associated Material:** 73-A19

**Description:** Engine Fuel and Control – Fuel Pump – Inspection of fuel pump blanking plugs and connections.

**Applicability – Compliance – Requirement**

Applicable to Viper Mk 601-22. Compliance required as detailed in Alert Service Bulletin.

**CAA AD No:** 010-10-80

**Associated Material:** 72-A338

**Description:** Engine – Exhaust cone assembly – Inspection of cap nuts and stay pins.

**Applicability – Compliance – Requirement**

Applicable to Viper Mk 520, 521 and 522. Compliance required as detailed in Alert Service Bulletin.

**CAA AD No:** 012-10-88

**Associated Material:** 75-A11

**Description:** Air – Blow-off valve – Revised operating limit.

**Applicability – Compliance – Requirement**

Service Bulletin has been cancelled and the information incorporated in the Time Limits Section of Maintenance and Overhaul Manuals. Therefore the AD has been cancelled.

**CAA AD No:** 049-09-89

**Associated Material:** 72-A154

**Description:** Engine – Compressor – Reduction of cyclic life of stages 5 and 6 compressor disc.

**Applicability – Compliance – Requirement**

Service Bulletin has been cancelled and the information incorporated in the Time Limits Section of Maintenance and Overhaul Manuals. Therefore the AD has been cancelled.

**CAA AD No:** 050-09-89

**Associated Material:** 72-A372

**Description:** Engine – Compressor – Reduction of cyclic life of stages 5 and 6 compressor disc.

**Applicability – Compliance – Requirement**

Applicable to Viper Mk 520, 521 and 522. Compliance required as detailed in Alert Service Bulletin.

**CAA AD No:** 015-04-90

**Associated Material:** 79-A4

**Description:** Engine – Oil – Check for correct seating of oil tank drain valve.

**Applicability – Compliance – Requirement**

Applicable to Viper Mk 601-22. Compliance required as detailed in Alert Service Bulletin.

**CAA AD No:** 030-04-90

**Associated Material:** 72-A381

**Description:** Engine – Lubrication – Check for correct seating of oil tank and oil pump drain valves.

**Applicability – Compliance – Requirement**

Applicable to Viper Mk 520, 521 and 522. Compliance required as detailed in Alert Service Bulletin.

**CAA AD No:** 011-05-90

**Associated Material:** 72-A243

**Description:** Engine – Lubrication – Check for correct seating of oil tank and oil pump drain valves.

**Applicability – Compliance – Requirement**

Applicable to Viper Mk 526. Compliance required as detailed in Alert Service Bulletin.

**CAA AD No:** 002-07-90

**Associated Material:** 72-A388

**Description:** Engine – Centre section – Inspection for pulled inserts.

**Applicability – Compliance – Requirement**

Applicable to Viper Mk 520, 521 and 522. Compliance required as detailed in Alert Service Bulletin.

**CAA AD No:** 003-07-90

**Associated Material:** 72-A249

**Description:** Engine – Centre section – Inspection for pulled inserts.

**Applicability – Compliance – Requirement**

Applicable to Viper Mk 526. Compliance required as detailed in Alert Service Bulletin.

**CAA AD No:** 004-07-90

**Associated Material:** 72-A173

**Description:** Engine – Centre section – Inspection for pulled inserts.

**Applicability – Compliance – Requirement**

Applicable to Viper Mk 601-22. Compliance required as detailed in Alert Service Bulletin.

**CAA AD No:** 020-02-91

**Associated Material:** 73-A52

**Description:** Engine Fuel and Control – Fuel pump – Inspection of fuel pump blanking plugs and connections.

**Applicability – Compliance – Requirement**

Applicable to Viper Mk 526. Compliance required as detailed in Alert Service Bulletin.

**CAA AD No:** 021-02-91

**Associated Material:** 72-A233

**Description:** Engine – Compressor – Reduction of cyclic life of stages 5 and 6 compressor disc.

**Applicability – Compliance – Requirement**

Applicable to Viper Mk 526. Compliance required as detailed in Alert Service Bulletin.

**CAA AD No:** 003-02-96

**Associated Material:** 73-A115

**Description:** Engine Fuel and Control – Introduction of fuel pump types MGBB.183 and MGBB.184

**Applicability – Compliance – Requirement**

Applicable to Viper Mk 522. Compliance required as detailed in Alert Service Bulletin.

**CAA AD No:** 004-02-96

**Associated Material:** 73-A118

**Description:** Engine Fuel and Control – Introduction of fuel pump types MGBB.181 and 182.

**Applicability – Compliance – Requirement**

Applicable to Viper Mk 520 and 521. Compliance required as detailed in Alert Service Bulletin.

**CAAAD No:** 008–11–97

**Associated Material:** 73–A121

**Description:** Engine Fuel and Control – Joint washer replacement – Augmentor and by-pass valve assembly to BFCU body.

**Applicability – Compliance – Requirement**

Applicable to Viper Mks 520/521 and 522. Compliance required as detailed in Alert Service Bulletin.

**CAAAD No:** 009–11–97

**Associated Material:** 73–A35

**Description:** Engine Fuel and Control – BFCU – Inspection of Augmentor and by-pass valve assembly joint washer.

**Applicability – Compliance – Requirement**

Applicable to Viper Mk 601. Compliance required as detailed in Alert Service Bulletin.

**CAAAD No:** 010–11–97

**Associated Material:** 73–A36

**Description:** Engine Fuel and Control – Joint washer replacement – Augmentor and by-pass valve assembly to BFCU body.

**Applicability – Compliance – Requirement**

Applicable to Viper Mk 601. Compliance required as detailed in Alert Service Bulletin.

**CAAAD No:** 011–11–97

**Associated Material:** 73–A120

**Description:** Engine Fuel and Control – BFCU – Inspection of Augmentor and by-pass valve assembly joint washer.

**Applicability – Compliance – Requirement**

Applicable to Viper Mks 520/521 and 522. Compliance required as detailed in Alert Service Bulletin.

**CAAAD No:** 012–11–97

**Associated Material:** 73–A68

**Description:** Engine Fuel and Control – BFCU – Inspection of Augmentor and by-pass valve assembly joint washer

**Applicability – Compliance – Requirement**

Applicable to Viper Mk 526. Compliance required as detailed in Alert Service Bulletin.

**CAA AD No:** 013-11-97

**Associated Material:** 73-A69

**Description:** Engine Fuel and Control – Joint washer replacement – Augmentor and by-pass valve assembly to BFCU body.

**Applicability – Compliance – Requirement**

Applicable to Viper Mk 526. Compliance required as detailed in Alert Service Bulletin.

**CAA AD No:** 003-06-99

**Associated Material:** 72-A176

**Description:** Engine – Compressor – Zero stage compressor stator vane cracking.

**Applicability – Compliance – Requirement**

Applicable to Viper Mk 601-22. Compliance required as detailed in Alert Service Bulletin.

**CAA AD No:** 004-01-2001

**Associated Material:** 72-A184

**Description:** Engine – 1st stage turbine rotor blades – New life limits.

**Applicability – Compliance – Requirement**

Applicable to Viper Mk 601-22. Compliance required as detailed in Alert Service Bulletin.

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# Propellers

## (2) British Aerospace Dynamics Group

UK National Airworthiness Directives previously published in CAP 476 – Mandatory Aircraft Modifications and Inspections Summary

### Bracket Propellers and Equipment

**CAA AD No:** 2164 PRE 80

**Associated Material:** 5226

**Description:** Propeller Types PD 136/ 212/1/2 (Heron)  
PD 170/ 212/1/2 (Heron)  
PD 175/ 212/1/2 (Heron)  
Introduction of stronger counterweight bracket.

#### Applicability – Compliance – Requirement

Modification News Sheet 2BCS Series No. 81 refers. Compliance required not later than first overhaul after 1 November 1962.

**CAA AD No:** 2165 PRE 80

**Associated Material:** 7204

**Description:** Constant Speed Units PAX 16 (Heron)  
PAX 16/B (Heron)  
Introduction of improved relief valve.

#### Applicability – Compliance – Requirement

Modification News Sheet 2BCS Series No. 75 refers. Compliance required immediately. Satisfies Special Propeller Technical Instruction No. 30.

**CAA AD No:** 2166 PRE 80

**Associated Material:** 25697

**Description:** Propeller Types PD 70/212/1 (Prentice)  
PD 136/212/1 (Heron)  
PD 170/212/1 (Heron)  
PD 175/212/1 (Heron)  
Front cone seat machine finished in situ, and changes propeller types to /2.

#### Applicability – Compliance – Requirement

Modification News Sheet 2BCS Series No. 86 refers. Compliance required not later than first overhaul after 1 February 1965.

**CAA AD No:** 2167 PRE 80

**Associated Material:** 29027

**Description:** Propeller Types PD 36/ 212/1/2 (Heron)  
PD 170/ 212/1/2 (Heron)  
PD 175/ 212/1/2 (Heron)

Simplified method of locking the oil transfer tube which cannot interfere with the tightening of the propeller.

**Applicability – Compliance – Requirement**

Modification News Sheet 2BCS Series No. 88 refers. Compliance required not later than first overhaul after 1 April 1968.

**CAA AD No:** 2168 PRE 80

**Associated Material:** 29104

**Description:** Propeller Types PD 136/ 212/1/2 (Heron)  
PD 170/ 212/1/2 (Heron)  
PD 175/ 212/1/2 (Heron)

Improved assembly standard of barrel support blocks.

**Applicability – Compliance – Requirement**

Modification News Sheet 2BCS Series No. 87 refers. Compliance required not later than first overhaul after 1 November 1967.

## Inspections

**CAA AD No:** 2169 PRE 80

**Associated Material:** –

**Description:** Constant Speed Units PAX 16 (Heron)  
PAX 16/B (Heron).

Inspection and alteration of relief valve cap.

**Applicability – Compliance – Requirement**

Special Propeller Technical Instruction No. 30 refers. No action required if Modification 7204 Modification News Sheet 2BCS Series No. 75 embodied.

**CAA AD No:** 2170 PRE 80

**Associated Material:** –

**Description:** Propeller Types PD 136/ 212/1/2 (Heron)  
PD 170/ 212/1/2 (Heron)  
PD 175/ 212/1/2 (Heron)

**Applicability – Compliance – Requirement**

Publication 2BCS Revision 28 refers.



**CAA AD No:** 2171 PRE 80  
**Associated Material:** –  
**Description:** Propeller Type PD 70/ 212/1/2 (Prentice)  
 Periodic checks to be carried out.

**Applicability – Compliance – Requirement**

Publication 2BCS Revision 28 refers.

### **Britannia Propellers and Equipment**

**CAA AD No:** 2172 PRE 80  
**Associated Material:** 6739  
**Description:** Controller Type PAY 81406/B (Britannia 300)  
 PAY 81407/B (Britannia 300)  
 Conversion to Types PAY 81408 & PAY 81409.

**Applicability – Compliance – Requirement**

Modification News Sheet Britannia No. 93 refers. Compliance required not later than 1 April 1960.

**CAA AD No:** 2173 PRE 80  
**Associated Material:** 8383  
**Description:** Synch switch units PQ 1088/1/2 (Britannia 300)  
 PQ 1095/1/2 (Britannia 100)  
 'All propellers increase/decrease.'  
 Switch to be changed for new type.

IMPORTANT NOTE: Part of this Modification has been superseded by Modification 26243 (See Modification News Sheet No. 538.)

**Applicability – Compliance – Requirement**

Modification News Sheet Britannia No. 309 refers. Compliance required not later than first overhaul after 1 January 1960. See also Technical News Sheet Britannia No. 54.

**CAA AD No:** 2174 PRE 80  
**Associated Material:** 10584  
**Description:** Controller Type PAY 81404 to PAY 81409 (Britannia 100 and 300)  
 Introduction of re-designed shuttle valve bush.

**Applicability – Compliance – Requirement**

Modification News Sheet No. 300 refers. Compliance required not later than 1 June 1959.

**CAAAD No:** 2175 PRE 80

**Associated Material:** 11445

**Description:** Controller Types PAY 81404 to PAY 81409 (Britannia 100 and 300).

IMPORTANT NOTE: This Modification has been superseded by Modification 24038 (see Modification News Sheet Britannia No. 487).

**Applicability – Compliance – Requirement**

Modification News Sheet Britannia No. 309 refers. Compliance required not later than first overhaul after 1 January 1960.

**CAAAD No:** 2176 PRE 80

**Associated Material:** 11513

**Description:** Controller Types PAY 81406 to PAY 81409 (Britannia 100 and 300).  
Introduction of filter to pressure setting valve. after 1 April 1960.

**Applicability – Compliance – Requirement**

Modification News Sheet Britannia No. 342 refers. Compliance required not later than first overhaul.

**CAAAD No:** 2177 PRE 80

**Associated Material:** 14064

**Description:** Controller Types PAY 81406 to PAY 81409 (Britannia 100 and 300).  
Reintroduction of bolts to secure shield to Governor carrier.

**Applicability – Compliance – Requirement**

Modification News Sheet Britannia No. 376 refers. Compliance required not later than first overhaul after 1 April 1960.

**CAAAD No:** 2178 PRE 80

**Associated Material:** 14606

**Description:** Propeller Types PD 208/466/2 (Britannia 300) PD 208/466/3 (Britannia 100). Cadmium Plate rear of barrel.

**Applicability – Compliance – Requirement**

Modification News Sheet Britannia No. 464 refers. Compliance required not later than first overhaul after 1 December 1962.

**CAAAD No:** 2179 PRE 80

**Associated Material:** 14771

**Description:** Propeller Types PD 208/466/2 (Britannia 300) PD 208/466/3 (Britannia 100). Introduction of an improved Piston Relief Valve to avoid high fluctuating pressures in the pitch change mechanism.

**Applicability – Compliance – Requirement**

Modification News Sheet Britannia No. 429 refers. Compliance required not later than first overhaul after 1 July 1962.

**CAAAD No:** 2180 PRE 80

**Associated Material:** 14877, 14952, 24195 and 24196

**Description:** Controller Types PAY 81406 to PAY 81409 (Britannia 100 and 300). Improved running conditions for idler shaft.

**Applicability – Compliance – Requirement**

Modification News Sheet Britannia No. 427, Revision 4, refers. Compliance required not later than first overhaul after 1 November 1963.

**CAAAD No:** 2181 PRE 80

**Associated Material:** 24038

**Description:** Controller Types PAY 81406 to PAY 81409 (Britannia 100 and 300). Governor weights and legs brazed and riveted for additional security.

**Applicability – Compliance – Requirement**

Modification News Sheet No. 487 refers. Compliance required not later than first overhaul after 1 July 1965.

**CAAAD No:** 2182 PRE 80

**Associated Material:** 24276

**Description:** Propeller Types PD 208/466/2 (Britannia 300) PD 208/466/3 (Britannia 100). Introduction of blend radius on internal step of piston.

**Applicability – Compliance – Requirement**

Modification News Sheet Britannia No. 500 refers. Compliance required not later than first overhaul after 1 August 1963.

**CAAAD No:** 2183 PRE 80

**Associated Material:** 25264

**Description:** Actuator Control Box Type PQ 1089/–/1 (Britannia 300). Positive location of Selsyn Generator control arms.

**Applicability – Compliance – Requirement**

Modification News Sheet No. 515 refers. Compliance required not later than 1 August 1964.

**CAAAD No:** 2184 PRE 80

**Associated Material:** 25606

**Description:** Propeller Types PD 208/466/2 (Britannia 300) PD 208/466/3 (Britannia 100). Removal of plating from spider radius resulting from embodiment of Repair Schemes P165 and/or P173.

**IMPORTANT NOTE:** These repair Schemes have been superseded by Repair Scheme P753 (Modification No. 29946) see Technical News Sheet No. 62.

**Applicability – Compliance – Requirement**

Modification News Sheet Britannia No. 522 refers. Compliance required not later than first overhaul after 1 December 1964.

**CAAAD No:** 2185 PRE 80

**Associated Material:** 26243

**Description:** Synch switch units PQ 1088/2 (Britannia 300) PQ 1095/2 (Britannia 100).  
'All propellers increase/decrease' switch with improved spring.

**IMPORTANT NOTE:** This modification is not mandatory, but is included for information because it supersedes part of Modification 8383 (Modification News Sheet Britannia No.241).

**Applicability – Compliance – Requirement**

Modification News Sheet Britannia No. 538 refers. Compliance recommended at first overhaul after 1 August 1966, or during repair.

**CAAAD No:** 2186 PRE 80

**Associated Material:** 29683

**Description:** Pump Unit, Feathering, assembly type: PFD 6306. Introduction of bleed valve associated with Rolls-Royce Bristol Siddeley Proteus engine Modification No. 632.

**Applicability – Compliance – Requirement**

Modification News Sheet Britannia No. 586 refers. Compliance required by 31 December 1971.

**CAAAD No:** 2187 PRE 80

**Associated Material:** –

**Description:** Propeller Types PD 208/466/2 (Britannia 300) PD 208/466/3 (Britannia 100). Periodic checks to be carried out.

**Applicability – Compliance – Requirement**

Publication 5200 Revision 25 refers.

**CAAAD No:** 2188 PRE 80

**Associated Material:** –

**Description:** Synch switch units PQ 1088/2 (Britannia 300) PQ 1095/2 (Britannia 100).  
'All propellers increase/decrease' switch life limited to 1800 hours unless Modification 26243 embodied.

**Applicability – Compliance – Requirement**

Technical News Sheet Britannia No. 54 Revision 2 refers.

**CAAAD No:** 2189 PRE 80

**Associated Material:** –

**Description:** Propeller Types PD 208/466/2 (Britannia 300) PD 208/446/3 (Britannia 100). Repair Scheme P556 superseded by P753A, P753B or P753C.

IMPORTANT NOTE: No action is required if:

- 1 Propellers overhauled by Hawker Siddeley Dynamics since 30 November 1970,
- OR
- 2 Modification 29953 (MNS BRIT 592) or Modification 29954 (MNS BRIT 894) embodied.

**Applicability – Compliance – Requirement**

Technical News Sheet Britannia No. 62 refers. Compliance required not later than 31 December 1973.

**CAAAD No:** 2190 PRE 80

**Associated Material:**

**Description:** Synch Switch Unit PQ1088/2 (Britannia 300) – check security of 'All propellers increase/ decrease' switch dolly.

**Applicability – Compliance – Requirement**

Technical News Sheet Britannia No. 63 refers. Compliance required before 1 February 1974.

### **Heron Hydromatic Propellers and Equipment**

**CAAAD No:** 2191 PRE 80

**Associated Material:** 7484

**Description:** Spinner Type PPS 2129501. Strengthened backplate unit and improved lock body.

**Applicability – Compliance – Requirement**

Modification News Sheet Heron No. 24 refers. Compliance required not later than 1 July 1963. See also Special Propeller Technical Instruction No. 32.

**CAAAD No:** 2192 PRE 80

**Associated Material:** 8913

**Description:** Feathering Unit Type PFD 2205. Conversion to Type PFD 3001 by reversal of drive gear.

**Applicability – Compliance – Requirement**

Modification News Sheet Heron No. 26 refers. Compliance required immediately. Satisfies Special Propeller Technical Instruction No. 34.

**CAAAD No:** 2193 PRE 80

**Associated Material:** 14724

**Description:** Constant Speed Unit Type PAY 208. Repair scheme to obviate leakage between constant speed units and engine.

**Applicability – Compliance – Requirement**

Modification News Sheet Heron No. 28 refers. Compliance required not later than first overhaul after 1 December 1961.

### Inspections

**CAAAD No:** 2194 PRE 80

**Associated Material:** –

**Description:** Feathering Unit Type PFD 2205. Conversion to Type PFD 3001 by embodiment of Modification 8913.

**Applicability – Compliance – Requirement**

Special Propeller Technical Instruction No. 34 refers. Compliance required immediately. No action required if Modification 8913 Modification News Sheet No. 26 embodied.

### Pembroke, Prince and President Propellers and Equipment

**CAAAD No:** 2195 PRE 80

**Associated Material:** 7290

**Description:** Constant Speed Unit Types PAY 30404 (Prince)  
PAY 30404 (Pembroke)  
PAY 30405 (Pembroke)  
PAY 30405 (President)

Introduces new coupling and drive gear having improved splines.

**Applicability – Compliance – Requirement**

Modification News Sheet 3HFB Series No. 257 refers. Compliance required not later than first overhaul after 1 December 1957. Satisfies Special Propeller Technical Instruction No. 31.

**CAAAD No:** 2196 PRE 80

**Associated Material:** 7627

**Description:** Constant Speed Unit Types PAY 30404 (Prince)  
PAY 30404 (Pembroke)  
PAY 30405 (Pembroke)  
PAY 30405 (President)

Strengthened spring for change over valve.

#### **Applicability – Compliance – Requirement**

Modification News Sheet 3HFB Series No. 269 refers. Compliance required not later than first overhaul after 1 May 1959.

### **Inspections**

**CAAAD No:** 2197 PRE 80

**Associated Material:** –

**Description:** Constant Speed Unit Types PAY 30404 (Prince)  
PAY 30404 (Pembroke)  
PAY 30405 (Pembroke)  
PAY 30405 (President)

Periodic check to be carried out if Modification 7290 not embodied.

#### **Applicability – Compliance – Requirement**

Special Propeller Technical Instruction No. 31 refers. No action required if Modification 7290 Modification News Sheet 3HFB Series No. 257 embodied.

### **Pioneer (Twin and Single) Propellers and Equipment**

**CAAAD No:** 2198 PRE 80

**Associated Material:** 7290

**Description:** Constant Speed Unit Types PAY 30405(Single).  
Introduces new coupling and drive gear having improved splines.

#### **Applicability – Compliance – Requirement**

Modification News Sheet 3HFB Series No. 257 refers. Compliance required not later than first overhaul after 1 December 1957. Satisfies Special Propeller Technical Instruction No. 31.

**CAAAD No:** 2199 PRE 80

**Associated Material:** 7500

**Description:** Constant Speed Unit Types PAY 31202 (Twin). Introduces new drive shaft and couplings having improved splines.

**Applicability – Compliance – Requirement**

Modification News Sheet Twin Pioneer No 17 refers. Compliance recommended at first overhaul after March 1959. Satisfies Special Propeller Technical Instruction No. 31.

**CAAAD No:** 2200 PRE 80

**Associated Material:** 7627

**Description:** Constant Speed Unit Type PAY 30405 (Single). Strengthened spring for changeover valve.

**Applicability – Compliance – Requirement**

Modification News Sheet 3HFB Series No. 269 refers. Compliance required not later than first overhaul after 1 May 1959.

**CAAAD No:** 2201 PRE 80

**Associated Material:** 9205

**Description:** Propeller Type PD 205/323/1 (Twin). Improved tab washer.

**IMPORTANT NOTE:** This Modification is not mandatory but is included for information because its embodiment satisfies Special Propeller Technical Instruction No. 35.

**Applicability – Compliance – Requirement**

Modification News Sheet Twin Pioneer No. 18 refers. Compliance recommended at first overhaul after 1 December 1968, or during repair. Satisfies Special Propeller Technical Instruction No. 35.

**CAAAD No:** 2202 PRE 80

**Associated Material:** 25717

**Description:** Propeller Types PD 205/323/1 (Twin)  
PD 237/323/1 (Twin)  
Increased clearance between piston and dome shell.

**Applicability – Compliance – Requirement**

Modification News Sheet Twin Pioneer No. 37 refers. Compliance required not later than 1 July 1969.



## Inspections

**CAA AD No:** 2203 PRE 80

**Associated Material:** –

**Description:** Constant Speed Unit Types PAY 30405 (Single)  
PAY 31202 (Twin)  
Periodic check to be carried out if Modification 7290 (Single) and Modification 7500 (Twin) not embodied.

### **Applicability – Compliance – Requirement**

Special Propeller Technical Instruction No. 31 refers. No action required if Modification 7290 Modification News Sheet 3HFB Series No. 257 (Single) embodied or Modification 7500 Modification News Sheet Twin Pioneer No. 17 (Twin) embodied.

**CAA AD No:** 2204 PRE 80

**Associated Material:**

**Description:** Propeller Type PD 205/323/1 (Twin). Periodic check to be carried out if Modification 9205 not embodied.

### **Applicability – Compliance – Requirement**

Special Propeller Technical Instruction No. 35 refers. No action required if Modification News Sheet Twin Pioneer No. 18 embodied.

## Vanguard Propeller and Equipment

**CAA AD No:** 2205 PRE 80

**Associated Material:** 13501

**Description:** Controller Type PAY 85004 (Van 951 and 953)  
PAY 85201 (Van 952).  
Strengthened material for third oil line R/V housing.

### **Applicability – Compliance – Requirement**

Service Bulletin 61–465 refers. Compliance required not later than first overhaul after 1 February 1973.

**CAA AD No:** 2206 PRE 80

**Associated Material:** 13610 or 18305

**Description:** Controller Types PAY 85004 (Van 951 and 953)  
PAY 85201 (Van 952).  
Strengthened end plate for fine pitch resistor valve.

### **Applicability – Compliance – Requirement**

Service Bulletin A61–45C and A61–57C refer. Compliance required not later than 20 May 1961.

**CAA AD No:** 2207 PRE 80

**Associated Material:** 18374

**Description:** Propeller Type PD 223/466/3. Cadmium plate rear of barrel.

**Applicability – Compliance – Requirement**

Service Bulletin 61–165C refers. Compliance required not later than first overhaul after 1 February 1963.

**CAA AD No:** 2208 PRE 80

**Associated Material:** 18608

**Description:** Controller Types PAY 85004 (Van 951 and 953)  
PAY 85201 (Van 952).  
Improved governor leg drop-limiting stops.

**Applicability – Compliance – Requirement**

Service Bulletin 61–135C refers. Compliance required not later than 1 February 1962.

**CAA AD No:** 2209 PRE 80

**Associated Material:** 25615

**Description:** Propeller Type PD 223/466/3. Improved No. 2 stop piston.

**Applicability – Compliance – Requirement**

Service Bulletin Vanguard 61–254 refers. Compliance required not later than first overhaul after 1 March 1965.

**CAA AD No:** 2210 PRE 80

**Associated Material:** 29946

**Description:** Propeller type PD223/466/3 repair scheme P556 superseded by P753A, P753B or P753C.  
Removal of plating from spider radius.

**IMPORTANT NOTE:** No action is required if:

1 Propellers overhauled by Hawker Siddeley Dynamics since 31 December 1973

or

2 Modification 30352 (SB 61–477) embodied

or

3 \*New spider Part No. 7P73690 with repair scheme P658 embodied fitted at last overhaul.

\*Note 1 Spiders to this standard are acceptable for one overhaul life only. Modification 29946 must then be incorporated before further service.

\*Note 2 Spiders to this standard are not affected by the completion date of 31 December 1976.

**Applicability – Compliance – Requirement**

Service Bulletin Vanguard 61–473 refers. Compliance required not later than 31 December 1976.



**CAAAD No:** 2215 PRE 80

**Associated Material:** 18608

**Description:** Controller Type PAY 85402 (CL44). Improved governor leg drop-limiting stops.

**Applicability – Compliance – Requirement**

Service Bulletin 61–135C refers. Compliance required not later than 1 February 1962.

**CAAAD No:** 2216 PRE 80

**Associated Material:** 25946

**Description:** Propeller Type PD 228/476/3 (CL44). Introduction of Repair Scheme P643 to improve the fatigue strength of the barrel.

**Applicability – Compliance – Requirement**

Service Bulletin CL44 61–198. Compliance required not later than 10,500 total life.

**CAAAD No:** 2217 PRE 80

**Associated Material:** 30236

**Description:** Propeller Type PD228/476/3. Strengthened distribution housing.

**Applicability – Compliance – Requirement**

Service Bulletin 61–378 Revision 1 refers. Compliance required not later than 31 December 1976. To be embodied concurrently with Mod 30854.

**CAAAD No:** 2218 PRE 80

**Associated Material:** 30854

**Description:** Propeller Type PD 228/476/3. Improved assembly technique of distribution housing bolts.

**Applicability – Compliance – Requirement**

Service Bulletin 61–387 refers. Compliance required not later than 31 December 1976. To be embodied concurrently with 30236.

## (2) Dowty Aerospace Propellers

UK National Airworthiness Directives previously published in CAP 476 – Mandatory Aircraft Modifications and Inspections Summary

CAA AD No: 1145 PRE 80

Associated Material: SB 61–524

Description: Propellers – Assembly of hub and driving centre – revised hub driving centre.

Applicability – Compliance – Requirement

Applicable to R186/4–30–4/16 or R186/4–30–4/16/1 propellers fitted to Hawker Siddeley AW650, Argosy Series aircraft. Should have been embodied not later than 1 January 1968.

CAA AD No: 1152 PRE 80

Associated Material: SB 61–604

Description: Propellers – Hub group – strengthened hub driving centre introduced. Mod. No. (C) VP 2388 Rev. 3.

Applicability – Compliance – Requirement

Applicable to but not necessarily restricted to Hawker Siddeley AW 650 Argosy Series aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 1157 PRE 80

Associated Material: SB 61–887

Description: Propellers – Operating pins – inspection for cracking.

Applicability – Compliance – Requirement

Applicable to propeller types (c) R212/4–30–4/22 and 22/1 fitted to Hawker Siddeley AW650 Series aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 1175 PRE 80

Associated Material: ASB 61–A734

Description: Propellers – Operating pins – Inspection for cracking.

Applicability – Compliance – Requirement

Applicable to but not necessarily limited to Hawker Siddeley 748 Series aircraft. Compliance required within 600 hours flying from the date of ASB.

CAA AD No: 1187 PRE 80

Associated Material: SB 61-266C

Description: Propellers – Propeller blade RA 25907 – The removal of blade corrosion and subsequent protection.

Applicability – Compliance – Requirement

Applicable to Fokker/Fairchild F27 and FH227 Series aircraft. Compliance required not later than at the completion of 7500 hours or 5 years, whichever is the shorter period, in accordance with Service Bulletin.

CAA AD No: 1188 PRE 80

Associated Material: SB 61-266E

Description: Propellers – Propeller blade RA 25899 – The removal of blade corrosion and subsequent protection.

Applicability – Compliance – Requirement

Applicable to Fokker/Fairchild F27 and FH227 Series aircraft. Compliance required at next overhaul after 5000 hours or 5 years, whichever is the shorter period, in accordance with Service Bulletin.

CAA AD No: 1192 PRE 80

Associated Material: SB 61-542-6

Description: Propellers – Blade group – ultimate life of blades RA 25899.

Applicability – Compliance – Requirement

Applicable to Fokker/Fairchild F27 and FH227 Series aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 1195 PRE 80

Associated Material: SB 61-A733

Description: Propellers – Operating pins – Inspection for cracking.

Applicability – Compliance – Requirement

Applicable to Fokker/Fairchild F27 and FH227 Series aircraft. Compliance required as detailed in Alert Service Bulletin.

CAA AD No: 1196 PRE 80

Associated Material: SB 61-A740

Description: Propellers – Operating pins – Inspection for cracking.

Applicability – Compliance – Requirement

Applicable to but not necessarily restricted to Fokker/Fairchild F27 and FH227 Series aircraft. Compliance required as detailed in Alert Service Bulletin.

CAA AD No: 1202 PRE 80

Associated Material: SB 61-909

Description: Propellers – Hub and driving centre – Inspection of hubs for cracks in front wall.

Applicability – Compliance – Requirement

Applicable to propeller type R175/4-30-4/13E fitted to Hawker Siddeley AW650 Argosy, Fokker/Fairchild F27 and FH227 Series aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 1209 PRE 80

Associated Material: SB 61-633

Description: Propellers – Hub and hub driving centre assemblies – cracks in hub driving centre.

Applicability – Compliance – Requirement

Applicable to but not necessarily restricted to Gulfstream Series aircraft. First inspection should have been accomplished by 1 August 1968, in accordance with Service Bulletin.

CAA AD No: 1213 PRE 80

Associated Material: SB 61-858

Description: Propellers – Inspection of hub driving centres.

Applicability – Compliance – Requirement

Applicable to but not necessarily restricted to Fokker/Fairchild F27 and FH227 and Gulfstream Series aircraft. Compliance required as detailed in Service Bulletin. Service Bulletin 61-573A and 61-573B, as applicable, refers.

CAA AD No: 1223 PRE 80

Associated Material: SB 61-542-18

Description: Propellers – Hub group – ultimate life of hub and driving centre assemblies (30 root single and double-lock propellers).

Applicability – Compliance – Requirement

Applicable to propellers and aircraft types as detailed in Service Bulletin. Compliance required as detailed in Service Bulletin.

CAA AD No: 1227 PRE 80

Associated Material: SB 61-857

Description: Propellers – Inspection of hub driving centres for incorrect machining to Mod. No. (c) VP 2381 standard.

Applicability – Compliance – Requirement

Applicable to but not necessarily restricted to Hawker Siddeley AW650 Argosy and 748 Series, Fokker/Fairchild F27 and FH227 Series, and Handley Page Herald Series aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 1229 PRE 80

Associated Material: SB 61–900

Description: Propellers – Hub and driving centre – Inspection of hubs for cracks.

Applicability – Compliance – Requirement

Applicable to but not necessarily restricted to Handley Page Herald Series Aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 1231 PRE 80

Associated Material: SB 29–112

Description: Hydraulic Power – Ram air turbine – Blade torque check and extension of calendar life.

Applicability – Compliance – Requirement

Applicable to Ram air turbine RAT 5/1 and 5/2 fitted to Trident aircraft. Compliance required as detailed in Service Bulletin. Service Bulletin also referenced in the Hawker Siddeley/De Havilland 121 Trident entry under AD 007–07–80.

CAA AD No: 1232 PRE 80

Associated Material: Mod. GU 497

Description: Controller Unit (except TCA) Type CU/25AE converted to CU/25AE/1. Type CU/48E converted to CU/48E/1. Additional earth lead to solenoid assembly.

Applicability – Compliance – Requirement

Applicable to Vickers Viscount Series aircraft. Complementary to Vickers Mod. D908.

CAA AD No: 1233 PRE 80

Associated Material: Mod. GU 524

Description: Controller Unit Types CU/25AE/1, CU/48E, CU/48E/1 and CU/55E/1. Locating prongs of spring housing removed and guide cone with blending radius added to bore.

Applicability – Compliance – Requirement

Applicable to Vickers Viscount Series aircraft. Incorporated in all units from February 1955. Retrospective not later than Aircraft Check 1 (130 hours maximum) on all units not to Mod. GU 517 standard.



CAA AD No: 1234 PRE 80

Associated Material: Mod. FP 83

Description: Feathering Pumps RFP/9E and RFP/18E. Addition of breather to gear chamber by means of drilling in BTH motor flange. Plugs and retaining spring added to unused portion of drain oilway.

Applicability – Compliance – Requirement

Applicable to Vickers Viscount Series aircraft. Embodied on all new units from January 1957 and classified as mandatory for retrospective embodiment at next overhaul following that date.

CAA AD No: 1235 PRE 80

Associated Material: Mod. FP 98

Description: Feathering Pumps – RFP/9E and RFP/18E. Crimping of lead connection (Mod. FP 64) or improved type soldered pins (Mod. FP 79) and plug adaptor face machined back 0.050 in (Mod. FP 82) on BTH motors.

Applicability – Compliance – Requirement

Applicable to Vickers Viscount Series aircraft. Embodiment on all production aircraft from January 1957. Retrospective at next overhaul.

CAA AD No: 1236 PRE 80

Associated Material: SB 61–157

Description: Propellers – Introduction of pre-primer for propeller blades.

Applicability – Compliance – Requirement

Applicable to Propellers and Aircraft types as detailed in Service Bulletin. Compliance required as detailed in SB.

CAA AD No: 1237 PRE 80

Associated Material: SB 61–185

Description: Propellers – Pitchlock group lock support sleeve revised.

Applicability – Compliance – Requirement

Applicable to Dart engine propeller types as detailed in Service Bulletin. Compliance required as detailed in SB.

CAA AD No: 1239 PRE 80

Associated Material: SB 61–564

Description: Propellers – New operating cylinder introduced – Modification No. VP 2480.

Applicability – Compliance – Requirement

Applicable to Propellers and Aircraft types as detailed in Service Bulletin. Compliance required as detailed in SB.

CAA AD No: 1241 PRE 80

Associated Material: SB 61-266B

Description: Propellers – Propeller blades RA 25840 and RA 25842 – The removal of blade corrosion and subsequent protection.

Applicability – Compliance – Requirement

Applicable to Viscount 700 and 800 Series aircraft excluding V701 and V802, V724 and V757 operated by Air Canada and V745, V785 and V798 operated by Alitalia for which separate Bulletins have been issued in the 61-266B1 etc Series. Propeller Types: (c) R129/4-20-4/11E (c) R129/4-20-4/16E, (c) R139/4-20-4/17E (c) R139/4-20-4/19E, (c) R148/4-20-4/21E (c) R148/4-20-4/22E, (c) R155/4-20-4/25E (c) R155/4-20-4/26E, Propeller Blade Part No. RA 25840. Propeller Types: (c) R130/4-20-4/12E (c) R141/4-20-4/18E, (c) R147/4-20-4/20E, Propeller Blade Part No. RA 25842. Compliance required as per Service Bulletin.

CAA AD No: 1242 PRE 80

Associated Material: SB 61-266F

Description: Propellers – Propeller blade RA 25890 – The removal of blade corrosion and subsequent protection.

Applicability – Compliance – Requirement

Applicable to Viscount 806 – Dart 520. Propeller type No. (c) R178/4-20-4/32. Viscount 802 – Dart 510, Viscount 806X – Dart Propeller type No. (c) R240/4-20-4/32. Propeller Blade Part No. RA 25890. Compliance required as per Service Bulletin.

CAA AD No: 1245 PRE 80

Associated Material: SB 61-380

Description: Propellers – Blade bearings – Overhaul.

Applicability – Compliance – Requirement

Applicable to all types of blade bearings fitted to Dowty Rotol propeller blades. Compliance required as detailed in Service Bulletin.

CAA AD No: 1252 PRE 80

Associated Material: SB 18B

Description: Propellers – R44/456/2, 4 and 12 Blade No. RA 10370-1. Inspection of blade root.

Applicability – Compliance – Requirement

Applicable to Vickers Viking Series Aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 1254 PRE 80

Associated Material: SB 61-470

Description: Propellers – Blade bearing assemblies – ultimate life introduced for specific races.

Applicability – Compliance – Requirement

Applicable to Mitsubishi YS-11 Series aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 1255 PRE 80  
Associated Material: SB 61-542-8  
Description: Propellers – Blade group – ultimate life of case hardened rollers to Mod No. (c) VP 2416 or (c) VP 2677 Standard in blade bearing bottom (cf) races.

Applicability – Compliance – Requirement

Applicable to MitsubishiYS-11 Series aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 1257 PRE 80  
Associated Material: SB A61-654  
Description: Propellers – Operating pins – Inspection for fatigue cracking.

Applicability – Compliance – Requirement

Applicable to MitsubishiYS-11 Series aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 1258 PRE 80  
Associated Material: SB 61-711  
Description: Propellers – Operating pins – Inspection for cracking at overhaul.

Applicability – Compliance – Requirement

Applicable to Propellers and Aircraft types as detailed in Service Bulletin. Compliance required as detailed in SB.

CAA AD No: 1259 PRE 80  
Associated Material: SB 61-A753  
Description: Propellers – Eyebolt and operating link group – seizure through Cadmium plating.

Applicability – Compliance – Requirement

Applicable to all Dowty Rotol 20 root, 30 root and 40 root propeller types fitted to Dart engined aircraft. Compliance required as detailed in Alert Service Bulletin.

CAA AD No: 1260 PRE 80  
Associated Material: SB 61-754  
Description: Propellers – Eyebolt and operating link group – De-embrittlement of incorrectly Cadmium plated operating links, link pins and eyebolts/ eyebolt forks.

Applicability – Compliance – Requirement

Applicable to all Dowty Rotol 20 root, 30 root and 40 root propeller types fitted to Dart engined aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 1263 PRE 80

Associated Material: SB 61-888

Description: Propellers – Excessive blade corrosion.

Applicability – Compliance – Requirement

Applicable to Propellers and Aircraft types as detailed in Service Bulletin. Compliance required as detailed in Service Bulletin.

CAA AD No: 1264 PRE 80

Associated Material: SB 61-890

Description: Propellers – Hub group – Inspection of hub arms.

Applicability – Compliance – Requirement

Applicable to MitsubishiYS-11 Series aircraft fitted with R209/4-40-4.5/2 propellers. Compliance required as detailed in Service Bulletin.

CAA AD No: 1265 PRE 80

Associated Material: SB 61-906

Description: Propellers – Pitch lock support sleeve – Inspection for cracking.

Applicability – Compliance – Requirement

Applicable to Propellers and Aircraft types as detailed in Service Bulletin. Compliance required as detailed in Service Bulletin.

CAA AD No: 1268 PRE 80

Associated Material: SB 61-542-9

Description: Propellers – Blade group – All No. 40 root size blade bearings – ultimate life of case hardened rollers to Mod No. (c) VP 2416 or (c) VP 2677 standard in blade bearing bottom (cf) races.

Applicability – Compliance – Requirement

Applicable to Convair 600 and 640 Series aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 1269 PRE 80

Associated Material: SB 61-581

Description: Propellers – Locking of blade groups in hub group – checking for security.

Applicability – Compliance – Requirement

Applicable to MitsubishiYS-11 and Convair 600 and 640 Series aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 1270 PRE 80

Associated Material: SB 61–A862

Description: Propellers – Inspection of blades.

Applicability – Compliance – Requirement

Applicable to Mitsubishi YS–11 and Convair 600 and 640 Series aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 1271 PRE 80

Associated Material: SB 61–873

Description: Propellers – Pitch lock assembly – Inspection of pitch lock piston for cracks.

Applicability – Compliance – Requirement

Applicable to Mitsubishi YS–11 and Convair 600 and 640 Series aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 1272 PRE 80

Associated Material: SB 61–714

Description: Propellers – Blade group – New locking segments introduced for blade bearing retaining bolts.

Applicability – Compliance – Requirement

Applicable to Propellers and Aircraft types as detailed in Service Bulletin. Compliance requires incorporation at the next overhaul of all propellers from 1 January 1972.

CAA AD No: 049–12–80

Associated Material: SB 61–934

Description: Propellers – Operating restriction.

Applicability – Compliance – Requirement

Applicable to Rockwell Thrush Commander Models S2–R and S2–R3S and Grumman Ag-Cat Models G164A, G164B and G164C aircraft fitted with Pezetel PZL–3S engines. Compliance required as detailed in Service Bulletin.

CAA AD No: 017–02–81

Associated Material: SB 61–941

Description: Propellers – Propeller to engine indexing.

Applicability – Compliance – Requirement

Applicable to Rockwell Thrush Commander Models S2–R and S2–R3S and Grumman Ag-Cat Models G164A, G164B and G164C aircraft fitted with Pezetel PZL–3S engine. Compliance required as detailed in Service Bulletin.

CAA AD No: 003-06-81  
Associated Material: SB 61-A945  
Description: Propellers – Pre Take-off inspection for blade leading edge damage.

Applicability – Compliance – Requirement

Applicable to but not necessarily restricted to Rockwell Thrush Commander Models S2-R and S2-RS3 and Grumman Ag-Cat G164A, G164B and G164C aircraft fitted with Pezetel PZL-3S engines. Compliance required as detailed in Service Bulletin.

CAA AD No: 012-10-81  
Associated Material: SB 61-843  
Description: Propellers – Inspection of operating pins.

Applicability – Compliance – Requirement

Applicable to propeller type R187/4-30-4/18 fitted to Handley Page Herald aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 002-12-81  
Associated Material: SB 61-542-3  
Description: Propellers – Hub group – Ultimate life of hub and driving centre assembly.

Applicability – Compliance – Requirement

Applicable to Viscount 700/800 Series. Compliance required as detailed in Service Bulletin.

CAA AD No: 003-12-81  
Associated Material: SB 61-542-17  
Description: Propellers – Hub group – Ultimate life of hub and driving centre assembly.

Applicability – Compliance – Requirement

Applicable to Viscount 810 Series. Compliance required as detailed in Service Bulletin.

CAA AD No: 013-05-84  
Associated Material: SB 61-882  
Description: Propellers – Inspection of hub and driving centre assemblies which have possibly been incorrectly cadmium plated.

Applicability – Compliance – Requirement

Applicable to propeller Types R193/4-30-4/50 and 61 installed on F27 and FH227 aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 011-10-86

Associated Material: SB 61-1042

Description: Propellers – Pitch lock group – Cracking of cylinder cover.

Applicability – Compliance – Requirement

Applicable to aircraft and hovercraft as detailed in Service Bulletin. Compliance required as detailed in Service Bulletin.

CAA AD No: 012-10-86

Associated Material: SB 61-1043

Description: Propellers – Propeller hubs – Inspection of the buttress threads in hub ports for cracking.

Applicability – Compliance – Requirement

Applicable to propellers as detailed in Service Bulletin fitted to HS748 and Argosy aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 011-07-87

Associated Material: SB SF340-61-A21

Description: Propellers – Hub wall cracking.

Applicability – Compliance – Requirement

Applicable to R354/4-123-F/13 and R354/4-123-F/20 propellers fitted to SAAB SF 340 aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 012-09-87

Associated Material: SB 61-954

Description: Propellers – Introduction of new propeller type – Mod No. (c) VP3008.

Applicability – Compliance – Requirement

Applicable to propellers and aircraft as detailed in Service Bulletin. Compliance required as detailed in Service Bulletin.

CAA AD No: 013-09-87

Associated Material: SB 61-961

Description: Propellers – Blade group – Temporary marking of blades for ultimate life identification relative to up-rated Dart engines.

Applicability – Compliance – Requirement

Applicable to propellers and aircraft as detailed in Service Bulletin. Compliance required as detailed in Service Bulletin.

CAA AD No: 014-09-87  
Associated Material: SB 61-1044  
Description: Propellers – Propeller blades associated with up-rated Dart engined aircraft – Limitation on number of take-offs at high power.

Applicability – Compliance – Requirement

Applicable to propellers and aircraft as detailed in Service Bulletin. Compliance required as detailed in Service Bulletin.

CAA AD No: 015-09-87  
Associated Material: SB 61-1048  
Description: Propellers – Introduction of new propeller type – Mod No. (c) VP3190 Revision 2.

Applicability – Compliance – Requirement

Applicable to propellers and aircraft as detailed in Service Bulletin. Compliance required as detailed in Service Bulletin.

CAA AD No: 005-10-87  
Associated Material: SB F50-61-12  
Description: Propellers – Replacement of beta tubes to monitor condition.

Applicability – Compliance – Requirement

Applicable to Beta Tubes Unit (R352/6-123-F/1 and -F/2) propellers Part No. 696001006 fitted to Fokker F27 Mk 050 aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 006-03-88  
Associated Material: SB 61-1053  
Description: Propellers – Propeller hubs – Inspection of the front wall/snout radius areas for cracking.

Applicability – Compliance – Requirement

Applicable to propellers as detailed in Service Bulletin fitted to HS748 and Argosy aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 007-03-88  
Associated Material: SB 61-1054  
Description: Propellers – Introduction of scheduled hub contact switch brushes – Inspection and replacement.

Applicability – Compliance – Requirement

Applicable to propellers and aircraft as detailed in Service Bulletin. Compliance required as detailed in Service Bulletin.



CAA AD No: 013-06-88  
Associated Material: SB SF340-61-33  
Description: Propellers – Introduction of new hub assemblies – Mod No (c) VP3299.  
Applicability – Compliance – Requirement  
Applicable to R354/4-123-F/13 propellers fitted to SAAB SF 340 aircraft. Compliance required as detailed in Service Bulletin not later than 31 December 1989.

CAA AD No: 003-11-88  
Associated Material: SB 61-A1021  
Description: Propellers – Failure of beta tube.  
Applicability – Compliance – Requirement  
Applicable to R354/4-123-F/13, R354/4-123-F/20 and R375/4-123-F/21 propellers fitted to SAAB SF340 aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 010-11-88  
Associated Material: SB SF340-61-A42  
Description: Propellers – Hub wall cracking.  
Applicability – Compliance – Requirement  
Applicable to R354/4-123-F/13 and R354/4-123-F/20 and R375/4-123-F/21 propellers fitted to SAAB SF340 aircraft. Compliance required as detailed in Alert Service Bulletin.

CAA AD No: 023-05-89  
Associated Material: SB F50-61-50  
Description: Propellers – Inspection of propellers if an overtorque condition has occurred.  
Applicability – Compliance – Requirement  
Applicable to R352/6-123-F/1 and R352/6-123-F/2 propellers fitted to Fokker F27 Mk. 050 aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 027-05-89  
Associated Material: SB F50-61-53  
Description: Propellers – Inspection of propeller operating cylinder retaining bolts.  
Applicability – Compliance – Requirement  
Applicable to R352/6-123-F/1 propellers fitted to Fokker F27 Mk. 050 aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 008-09-90  
Associated Material: SB F50-61-67  
Description: Propellers – Replacement of propeller operating cylinder retaining bolts.  
Applicability – Compliance – Requirement  
Applicable to R352/6-123-F/1 propellers fitted to Fokker F27 Mk 050 aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 014-03-91  
Associated Material: SB F50-61-79  
Description: Propellers – Operating cylinder – Ultimate life.  
Applicability – Compliance – Requirement  
Applicable to R352/6-123-F/1 propellers operating cylinder Part Nos. 660715606 and 660715708 fitted to Fokker F27 Mk 050 aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 012-11-91  
Associated Material: SB F50-61-93  
Description: Propellers – Inspection of propeller operating cylinder retaining bolts.  
Applicability – Compliance – Requirement  
Applicable to R352/6-123-F/1 propellers post R352/6-123-F/2 propellers fitted to Fokker F27 Mk050 aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 009-03-92  
Associated Material: SB 61-1091  
Description: Propellers – Pitch lock assembly – Inspection of lock supports at overhaul.  
Applicability – Compliance – Requirement  
Applicable to propellers as detailed in Service Bulletin. Compliance required as detailed in Service Bulletin.

CAA AD No: 006-01-94  
Associated Material: SB SF340-61-75  
Description: Propellers – Inspection of counterweight arms for forging folds.  
Applicability – Compliance – Requirement  
Applicable to R354/4-123-F/13, R354/4-123-F/20, R375/4-123-F/21, R389/4-123-F/25, R389/4-123-F/26 and R390/4-123-F/27 propellers fitted to SAAB 340A and 340B aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 005–10–94

Associated Material: SB SF340–61–82

Description: Propellers – Hub wall cracking.

Applicability – Compliance – Requirement

Applicable to R354/4–123–F/13, R354/4–123–F/20 and R375/4–123–F/21 propellers fitted to SAAB 340A and 340B aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 004–11–94

Associated Material: SB S2000–61–6

Description: Propellers – Pitch control unit – New spool and sleeve sub-assembly.

Applicability – Compliance – Requirement

Applicable to pitch control units Part No. 697013004 fitted to SAAB 2000 aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 005–12–94

Associated Material: SB S2000–61–11

Description: Propellers – Inspection of blade retention bearings.

Applicability – Compliance – Requirement

Applicable to R381/6–123–F/5 propellers fitted to SAAB 2000 aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 006–09–95

Associated Material: SB S2000–61–21

Description: Propellers – Overspeed governor – Inspection of weight carrier sub-assembly.

Applicability – Compliance – Requirement

Applicable to overspeed governor units Part No. 697012002 fitted to SAAB 2000 aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 005–10–95

Associated Material: SB S2000–61–22

Description: Propellers – Cylinder – Adjust preload of cap screws.

Applicability – Compliance – Requirement

Applicable to R381/6–123–F/5 propellers fitted to SAAB 2000 aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 003-03-96

Associated Material: SB F50-61-151

Description: Propellers – Pitch control unit – Inspection of servo valve.

Applicability – Compliance – Requirement

Applicable to pitch control units Part Nos. 663007003, 663007004 and 663007005 fitted to Fokker F.27 Mk. 050 aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 002-11-96

Associated Material: SB SF340-61-88

Description: Propellers – Blade pitch seizure.

Applicability – Compliance – Requirement

Applicable to R354/4-123-F/13, R354/4-123-F/20, R375/4-123-F/21, R389/4-123-F/25, R389/4-123-F/26 and R390/4-123-F/27 propellers fitted to SAAB 340A and 340B aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 008-07-97

Associated Material: SB S2000-61-47

Description: Propellers – Overspeed governor – Increased torque and loctite added to solenoid valve attachment cap screws.

Applicability – Compliance – Requirement

Applicable to overspeed governor units Part No. 697012002 fitted to SAAB 2000 aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 006-08-97

Associated Material: SB S2000-61-31

Description: Propellers – Pitch control unit (PCU) – New servo valve strainer plate.

Applicability – Compliance – Requirement

Applicable to pitch control units Part No. 697013004 pre Serial No. DAP 0136 fitted to SAAB 2000 aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 004-09-97

Associated Material: SB S2000-61-46

Description: Propellers – Pitch control unit (PCU) – Time to unfeather propeller checks to ensure safe operation.

Applicability – Compliance – Requirement

Applicable to pitch control units Part Nos. 697013004 and 697013005 fitted to SAAB 2000 aircraft if the engine uses Mobiljet Oil 254 now or in the last 500 flying hours. Compliance required as detailed in Service Bulletin.

CAA AD No: 004-12-97

Associated Material: SB C130J-61-7

Description: Propellers – Inspect propeller blades to NDT21.

Applicability – Compliance – Requirement

Applicable to R391/6-132-F/3 propellers fitted to Lockheed 382J (C-130J) aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 005-12-97

CAA AD No: SB C130J-61-9

Description: Propellers – New seal kit.

Applicability – Compliance – Requirement

Applicable to R391/6-132-F/3 propellers fitted to Lockheed 382J (C-130J) aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 005-09-98

Associated Material: SB S2000-61-67

Description: Propellers – Overspeed governor – New weights and carrier assembly.

Applicability – Compliance – Requirement

Applicable to overspeed governor units Part Nos. 697012002 and 697012003 pre Serial No. DAP0161 fitted to SAAB 2000 aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 007-09-98

Associated Material: SB C130J-61-26

Description: Propellers – Overspeed governor – New weights and carrier assembly.

Applicability – Compliance – Requirement

Applicable to overspeed governor units Part Nos. 697052002 and 697052003 pre Serial No. DAP0216 fitted to Lockheed 382J (C130J) aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 006-04-99

Associated Material: SB S2000-61-73

Description: Propellers – Inspection of counterweight arm assembly for damage.

Applicability – Compliance – Requirement

Applicable to R381/6-123-F/5 propellers fitted to SAAB 2000 aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 003-05-99

Associated Material: SB S2000-61-75

Description: Propellers – Inspection of de-iced blade assembly for damage.

Applicability – Compliance – Requirement

Applicable to R381/6-123-F/5 propellers fitted to SAAB 2000 aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 005-06-99

Associated Material: SB S2000-61-26

Description: Propellers – New cylinder, piston and cover.

Applicability – Compliance – Requirement

Applicable to R381/6-123-F/5 propellers fitted to SAAB 2000 aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 006-10-99

Associated Material: SB SF340-61-95

Description: Propellers – Hub wall cracking.

Applicability – Compliance – Requirement

Applicable to R389/4-123-F/25, -F/26 and -F/27 propellers fitted to SAAB 340A and 340B aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 005-04-2000

Associated Material: SB SF340-61-96

Description: Propellers – Loose hub through bolts.

Applicability – Compliance – Requirement

Applicable to propellers as detailed in Service Bulletin fitted to SAAB 340A and 340B aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 003-09-2000

Associated Material: SB D8400-61-23

Description: Propellers – Propeller electronic controller – Unit removal.

Applicability – Compliance – Requirement

Applicable to R408/6-123-F/17 propellers fitted to De Havilland Dash 8 Series 400, 401 and 402 aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 001-11-2000

Associated Material: SB C130J-61-55

Description: Propellers – Examine propeller blade root outer sleeves.

Applicability – Compliance – Requirement

Applicable to R391/6-132-F/3 de-iced blade assemblies fitted to Lockheed 382J (C-130J) aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 002-10-2002

Associated Material: SB S2000-61-90

Description: Propellers – Pitch control unit – Inspection of servo valve.

Applicability – Compliance – Requirement

Applicable to R381/6-123-F/5 propellers with pitch control unit Part No. 697013005 fitted to SAAB 2000 aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 009-05-2002

Associated Material: 61-1124

Description: Propellers – Hub wall cracking.

Applicability – Compliance – Requirement

Applicable to R333/4-82-F/12 propellers fitted to Jetstream 3100 and 3200 aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 010-05-2002

Associated Material: 61-1125

Description: Propellers – Hub wall cracking.

Applicability – Compliance – Requirement

Applicable to R321/4-82-F/8 propellers fitted to Merlin IVC/Metro III aircraft. Compliance required as detailed in Service Bulletin.

CAA AD No: 011-05-2002

Associated Material: 61-1126

Description: Propellers – Hub wall cracking.

Applicability – Compliance – Requirement

Applicable to R324/4-82-F/9 propellers fitted to Merlin IIIC aircraft. Compliance required as detailed in Service Bulletin.



## United Kingdom Civil Aviation Authority

## EMERGENCY AIRWORTHINESS DIRECTIVE

**AD No: G-2008-0003**

Issue Date: 15 January 2008

This AD is issued by the UK CAA as the National Aviation Authority (ICAO Annex 8 Authority of State of Design) for the affected product(s).

In accordance with Article 10 of the Air Navigation Order 2005 as amended the following action required by this Airworthiness Directive (AD) is mandatory for applicable aircraft registered in the United Kingdom.

No person may operate an aircraft to which an AD applies except in accordance with the requirements of that AD unless otherwise agreed with the Authority of the State of Registry.

Type Approval Holders Name: <b>DOWTY PROPELLERS</b>	Type/Model Designation(s): <b>R408/6-123-F/17</b>
<b>Type Certificate Data Sheet No:</b> EASA TCDS P.002	
<b>Superseded/ Revised ADs:</b> None	
<b>ATA 61– PROPELLER ELECTRONIC CONTROLLER - UNIT REMOVAL</b>	
<b>Manufacturer(s):</b> Dowty Propellers	
<b>Applicability:</b> Propeller Electronic Controller Part No. 699018002 Serial Nos :- 1488,1489, 1490, 1494, 1495, 1496, 1498, 1499, 1500, 1501, 1502, 1503, 1504, 1505, 1506, 1508, 1509, 1510, 1511, 1512, 1513, 1514, 1515, 1516, 1517, 1518, 1519, 1520, 1521, 1522, 1527, 1528, 1529, 1530, 1531, 1532, 1537, 1538, 1541, 1542, 1543, 1544, 1549, 1550, 1567, 1569, 1570, 1571, 1572, 1573, 1574, 1581	
<b>Reason:</b> The TC holder has identified that, due to a production problem, there is an increased potential for failure of input/output circuit boards fitted to Propeller Electronic Controllers with the above unit serial numbers. Failure could lead to uncommanded propeller speed changes or loss of the autofeather function.	
<b>Effective Date:</b> 18 January 2008	
<b>Compliance/Action:</b> Remove from service Propeller Electronic Controller units identified above as follows:-  <ol style="list-style-type: none"> <li>1) If two affected units are installed on one aircraft, remove one unit from service within 7 days of the effective date of this AD. The other unit is to be removed in accordance with paragraph 2) below.</li> <li>2) All units identified above must be removed from service within 1200 flight hours or 6 months of the effective date of this AD, whichever limit is reached first.</li> <li>3) Replace with a serviceable unit Part no 699018002 in accordance with the relevant Aircraft Maintenance Manual.</li> <li>4) Once removed, do not refit affected units until the input/output circuit board has been replaced by an organisation approved for the task, in accordance with Alert Service Bulletin D8400-61-A77.</li> </ol>	
<b>Reference Publications:</b> Dowty Propellers Alert Service Bulletin D8400-61-A77 may be obtained from Dowty Propellers, Anson Business Park, Cheltenham Road East, Gloucester, GL2 9QN. Phone: +44(0)1452 716000 Fax: +44(0)1452 716001.	
<b>Remarks:</b> Enquiries regarding this Airworthiness Directive should be referred to Aircraft Certification Department, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Phone: +44(0) 1293 573292 FAX: +44(0)1293 573976.	



**(2) Fairey Reed Fixed Pitch Metal Propellers**

UK National Airworthiness Directives previously published in CAP 476 – Mandatory Aircraft Modifications and Inspections Summary

**CAAAD No:** 2220 PRE 80

**Associated Material:** SB FRP001.1

**Description:** Instructions for the strip and examination of all Fairey Reed fixed pitch metal propellers.

**Applicability – Compliance – Requirement**

Compliance required at periods not exceeding each 300 hours of flying time.

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## **(2) Permali Group – Horden Richmond Wooden Fixed Pitch Propellers**

UK National Airworthiness Directives previously published in CAP 476 – Mandatory Aircraft Modifications and Inspections Summary

**CAA AD No:** 2219 PRE 80

**Associated Material:** –

**Description:** Permali Group – Horden Richmond wooden fixed pitch propellers.

### **Applicability – Compliance – Requirement**

Any propellers which have protecting sheathing in accordance with Modification SK504 must be withdrawn from service within a period not to exceed 50 hours flying since embodiment of this type of sheathing. The affected propellers have the letter 'M' after the drawing number stamped on the side of the boss. Subsequently these propellers should be resheathed by the manufacturer in accordance with Modification HR 1811, or HR 1812 or HR 1813.

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# Equipment

## (2) Cameron Balloons Ltd – Fuel Cylinders with CB-0824-0001 Liquid Valve Fitted



**United Kingdom  
Civil Aviation Authority**

**EMERGENCY  
AIRWORTHINESS  
DIRECTIVE**

**AD No: G-2008-0002**

Issue Date: 14 January 2008

This AD is issued by the UK CAA as the National Aviation Authority (ICAO Annex 8 Authority of State of Design) for the affected product(s).

In accordance with Article 10 of the Air Navigation Order 2005 as amended the following action required by this Airworthiness Directive (AD) is mandatory for applicable aircraft registered in the United Kingdom.

No person may operate an aircraft to which an AD applies except in accordance with the requirements of that AD unless otherwise agreed with the Authority of the State of Registry.

Type Approval Holders Name: <b>CAMERON BALLOONS LIMITED (CBL)</b>	Type/Model Designation(s): <b>CBL FUEL CYLINDERS WHICH HAVE A CB-0824-0001 LIQUID VALVE FITTED.</b>
<b>Type Certificate Data Sheet No:</b> All Cameron Balloons	
<b>Superseded/ Revised ADs:</b> None	
<b>ATA 28 – INLET SELF-SEAL VALVES</b>	
<b>Manufacturer:</b> Cameron Balloons Limited (CBL)	
<b>Applicability:</b> All gas cylinders supplied by CBL balloons which have a CB-0824-0001 Rego Type Cylinder Liquid Valve fitted which is date stamped between 12/05 and 08/06.	
<b>Reason:</b> Defective inlet self seal valves have been identified. Detachment of a seal inside the valve could result in partial or complete blockage of the burner supply.  On a hopper balloon this failure would result in an uncontrolled descent. In some circumstances this could result in serious injury.	
<b>Effective Date:</b> 16 January 2008	
<b>Compliance/Action:</b> The following measures are mandatory from the effective date of this AD: -	
<ol style="list-style-type: none"> <li>(1) Before further flight, inspect the balloons' cylinder to identify whether the Cylinder Liquid Valve is from the affected batch of valves. CBL Service Bulletin No. 17 provides information on how to identify the affected valves.</li> <li>(2) Before using a cylinder that is from the affected batch in a single cylinder balloon, replace the self-seal valve in accordance with CBL Service Bulletins 16 and 17.</li> <li>(3) Any cylinder from the affected batch, which is installed in a multi cylinder balloon, if it is to be used on a hopper balloon, must be modified in accordance with CBL Service Bulletins 16 and 17 before flight.</li> <li>(4) Other cylinders from the affected batch, which are used on multi- cylinder balloons, may remain in service.</li> </ol>	
<b>Note :</b> It is recommended the self-seal valve is also replaced on cylinders from the affected batch which are used on multi cylinder balloons. This should be done in accordance with CBL Service Bulletin 16.	

1/2

**Reference Publications:**



Cameron Balloons Service Bulletins 16 and 17 rev 0 or later approved revision, may be obtained from Cameron Balloons Ltd, St John's Street, Bedminster, Bristol, BS3 4NH, United Kingdom.

Tel: +44 (0)117 9637216 Fax +44 (0)117 9661168 Email: [enquiries@cameronballoons.co.uk](mailto:enquiries@cameronballoons.co.uk)

**Remarks:**

Enquiries regarding this Airworthiness Directive should be referred to Aircraft Certification Department, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Phone: +44(0) 1293 573292 FAX: +44(0)1293 573976.


**(2) Kidde Graviner Limited – Automatic Fire Extinguishers**

<b>Civil Aviation Authority</b>		
	<b>AIRWORTHINESS DIRECTIVE</b>	
<b>Number: G-2015-0001R1</b>		
Issue date: 20 May 2016		
<p><b>This Airworthiness Directive (AD) is issued by the UK CAA as the National Aviation Authority (ICAO Annex 8 Authority of State of Design for the affected product).</b></p> <p><b>In accordance with Article 19(1) of The Air Navigation Order 2009, as amended, the following action required by this AD is mandatory for applicable aircraft registered in the United Kingdom. No person may operate an aircraft to which an AD applies except in accordance with the requirements of that AD unless otherwise agreed with the Authority of the State of Registry.</b></p>		
<b>Type Approval Holder's Name:</b>	<b>Type/Model Designation(s):</b>	
Not applicable	Kidde Graviner Automatic Fire Extinguishers	
<b>TCDS:</b>	Not applicable	
<b>Supersedure:</b>	This AD revises UK AD G-2015-001, dated 13 October 2015.	
<b>ATA 26</b>	<b>Fire Protection – Engine and APU Automatic Fire Extinguishers – Inspection / Overhaul</b>	
<b>Manufacturer(s):</b>	Kidde Graviner Limited	
<b>Applicability:</b>	Non-EASA aircraft fitted with Kidde Graviner Single Head Automatic Fire Extinguishers, Part Numbers: 12A, 13A, 59A, 60A, 99A, 146A, 161A, 162A, 167A, 170A, 170A-02, 182A, 187A, 229A(1), 242A(1), 236A, 237A, 241A, 1167A, 1187A, 1200A, 57133 Series, 57135 Series, 57183 Series, 57331 Series, 57333 Series, 57335 Series	
<b>Reason:</b>	<p>An extinguisher failed to discharge because of excess solder that collected on the frangible plug and which prevented the release of the extinguishant. The solder had been deposited on the frangible plug during fire extinguisher overhaul. During the investigation by the vendor, Kidde Graviner, four further extinguishers of similar design were found to have the same issue.</p> <p>Failure of the fire extinguisher to discharge impacts the ability of the fire protection system to extinguish fires in the engine or APU fire zones. Failure to extinguish a fire in the engine or APU fire zones is categorized as potentially catastrophic.</p> <p>This condition, if not corrected, could result in the failure of a fire bottle to discharge when required.</p> <p>This AD is revised to clarify in the Applicability that only Non-EASA aircraft are affected.</p>	
<b>Effective Date:</b>	Original Issue: 20 October 2015 Revision 01: 23 May 2016	

Civil Aviation Authority Airworthiness Directive		SARG
<b>Compliance/Action:</b>	<p>Compliance is required as follows, unless previously accomplished:</p> <ol style="list-style-type: none"> <li>(1) Within 12 months after the effective date of the Original Issue of this AD, remove and inspect each affected fire extinguisher in accordance with the instructions of paragraph 3 of Kidde Graviner Service Bulletin (SB) 26-080 Revision 1.</li> <li>(2) Aeroplanes, which are equipped with fire extinguishers that have been overhauled by Kidde Graviner or Hugen, or have been overhauled in accordance with the instructions of Kidde Graviner Service Information Letter (SIL) 01-10, or have been overhauled in accordance with Kidde Graviner Component Maintenance Manual (CMM) 26-21-40 at Revision 14 or later revision, or have been overhauled in accordance with Kidde Graviner Component Maintenance Manual (CMM) 26-21-52 at Revision 13 or later revision, are compliant with requirements of paragraph (1) of this AD.</li> <li>(3) From the effective date of the Original Issue of this AD, do not install an affected Kidde Graviner fire extinguisher on any aeroplane, unless it is new, or it has passed the inspection in accordance with the instructions of Kidde Graviner SB 26-080 Revision 1, or it has been overhauled by Kidde Graviner or Hugen, or it has been overhauled in accordance with the instructions of Kidde Graviner SIL 01-10 or it has been overhauled in accordance with Kidde Graviner CMM 26-21-40 at Revision 14 or later revision, or it has been overhauled in accordance with Kidde Graviner CMM 26-21-52 at Revision 13 or later revision.</li> </ol> <p>Note: For the purposes of this AD, an overhaul is considered to include the replacement of the operating head. Replacement of the pressure relief plug assembly only is not considered an overhaul.</p>	
<b>Reference Publications:</b>	<p>Kidde Graviner Service Bulletin No. 26-080, "Automatic Fire Extinguisher – Excess Solder Between Operating Head and Container", Revision 1 dated July 27, 2011.</p> <p>Kidde Graviner Service Information Letter (SIL) 01-10, "Automatic Fire Extinguishers with Single Operating Head" dated July 29, 2010.</p>	
<b>Remarks:</b>	<ol style="list-style-type: none"> <li>1. Enquiries regarding this Airworthiness Directive should be referred to: GA Unit, Civil Aviation Authority, Safety and Airspace Regulation Group, Aviation House, Gatwick Airport South, West Sussex RH6 0YR.</li> </ol> <p style="text-align: right;">Tel: +44 (0)1293 573309 E-mail: <a href="mailto:nigel.davis@caa.co.uk">nigel.davis@caa.co.uk</a></p>	




**(2) Lindstrand Hot Air Balloons – Replacement of Defective Fuel Hoses**

	<b>United Kingdom Civil Aviation Authority</b>	<b>EMERGENCY AIRWORTHINESS DIRECTIVE</b>
		<b>AD No: G-2008-0001</b> Issue Date: 9 January 2008
<p>This AD is issued by the UK CAA as the National Aviation Authority (ICAO Annex 8 Authority of State of Design) for the affected product(s).</p> <p>In accordance with Article 10 of the Air Navigation Order 2005 as amended the following action required by this Airworthiness Directive (AD) is mandatory for applicable aircraft registered in the United Kingdom.</p> <p>No person may operate an aircraft to which an AD applies except in accordance with the requirements of that AD unless otherwise agreed with the Authority of the State of Registry.</p>		
<b>Type Approval Holders Name:</b> <b>LINDSTRAND HOT AIR BALLOONS LTD (LHAB)</b>		<b>Type/Model Designation(s):</b> <b>ALL LINDSTRAND HOT AIR BALLOONS</b>
<b>Type Certificate Data Sheet No:</b> EASA BA501, BA502, BA503, BA504, BA505, BA506, BA120 and BA021		
<b>Superseded AD:</b> G-2003-0010		
<b>ATA 28 - FUEL HOSES - REPLACEMENT OF DEFECTIVE HOSES</b>		
<b>Manufacturer(s):</b> Flexquip		
<b>Applicability:</b> Lindstrand supplied burner hoses manufactured by Flexquip as identified in LHAB Service Bulletin (SB) No. 11.		
<b>Reason:</b> Defective burner hoses have been identified which might develop a leak. A significant leak, if it was ignited, could hazard the balloon and occupants.  Since the issue of AD G-2003-0010 there have been occurrences of hose failure in batches not identified in the earlier bulletins. LHAB Service Bulletin (SB) No 11 supersedes the earlier SBs and revises the applicability as required.		
<b>Effective Date:</b> 12 January 2008		
<b>Compliance/Action:</b> The following measures are mandatory from the effective date of this AD: -		
(1) Before further flight inspect any balloon burners to determine whether it has a hose from the affected batch - see LHAB SB No.11, (2) For hoses from the affected batch, carry out the inspection and test identified in LHAB SB No.11, replace any defective hose with a serviceable hose. (3) For hoses from the affected batch, at an interval of not more than ten flight hours, repeat the inspection and test identified in LHAB SB No.11. Replace any defective hose with a serviceable hose. and (4) For hoses from the affected batch, at or before the next annual inspection, replace the hose with a serviceable one.		
<b>Note</b> Hoses removed as defective should be made unusable.		
<b>1/2</b>		

**Reference Publications:** LHAB Service Bulletin No 11, may be obtained from Lindstrand Hot Air Balloons Ltd, Maesbury Road, Oswestry, Shropshire, SY10 8ZZ. Tel: +44 1691 671717, Fax: +44 1691 671122.

**Remarks:** Enquiries regarding this Airworthiness Directive should be referred to Aircraft Certification Department, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Phone: +44 (0)1293 573292 Fax: +44 (0) 1293 573976.

**(2) Mann Aviation Group (Engineering) Ltd – Camera System Installation**

	<b>United Kingdom Civil Aviation Authority</b>	<b>AIRWORTHINESS DIRECTIVE</b>
		<b>AD No: G-2003-0008</b> Issue Date: 17 September 2003

This AD is issued by the UK CAA as the Primary Aviation Authority (ICAO Annex 8 Authority of State of Design) for the affected product(s).

In accordance with Article 9(7)(b) of the Air Navigation Order 2000 as amended the following action required by Airworthiness Directive (AD) is mandatory for applicable aircraft registered in the United Kingdom.  
 No person may operate an aircraft to which an AD applies except in accordance with the requirements of that AD unless otherwise agreed with the Authority of the State of Registry.

Type Approval Holders Name: **MANN AVIATION GROUP (ENGINEERING) LTD**      Type/Model Designation(s): **CAMERA SYSTEM INSTALLATION**

Type Certificate Data Sheet No: None

**ATA 25 - CAMERA SYSTEM INSTALLATION - RE-WORK OF THE TAIL ROTOR AND CYCLIC CONTROL CUT-OUTS OF THE FLOOR MOUNTED PLATFORM PANEL**

**Manufacturer(s):** Mann Aviation Group (Engineering) Ltd (MAG(E))

**Applicability:** Eurocopter Model AS350 and AS355 helicopters, certificated in any category that have been modified in accordance with MAG(E) modification 350-1521 or 350-1680. Installation of Camera platform.

**Reason:** MAG(E) have been made aware that, in one case, clearance between the Mounting Panel cut-outs and the primary controls was inadequate. This could potentially result in restriction or jamming of the pedals or cyclic control.

**Effective Date:** Upon receipt from 18 September 2003.

**Compliance/Action:**



- Required before further flight from the effective date of this AD, inspect helicopters which have MAG(E) modification 350-1521 or 350-1680 installed for continued short term acceptability in accordance with paragraph 2A of MAG(E) SB-A25-001. Platform panels bearing part number 350-1521-103, which do not have the specified clearance, must be removed from service immediately.
- Panels with Part Number 350-1521-103 held in store or those which have been removed in accordance with paragraph (a) must before next installation or within 30 days of the effective date of this AD whichever is sooner, be modified in accordance with the INSTRUCTIONS given in paragraph 2 of MAG(E) SB-A25-001.
- For Panels inspected in accordance with paragraph (a) that have remained installed, within 30 days of the effective date of this AD, modify the Panel Part Number 350-1521-103 in accordance with the INSTRUCTIONS given in paragraph 2 of MAG(E) SB-A25-001.

**Reference Publications:** MAG(E) Service Bulletin, SB-A25-001 Issue 1, may be obtained from: Mann Aviation Group (Engineering) Ltd, Fair Oaks Airport, Chobham, Woking, GU24 8HX, United Kingdom. Phone : +44 (0) 1276 857888 Fax: +44 (0) 1276 857810 E-mail: [engineering@alanmann.co.uk](mailto:engineering@alanmann.co.uk)

**Remarks:** Enquires regarding this AD should be referred to Mr N Williams, Civil Aviation Authority, Aircraft Certification Section, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Phone: +44 (0)1293 573292 Fax: +44 (0)1293 573976 E-mail: [neil.williams@srg.caa.co.uk](mailto:neil.williams@srg.caa.co.uk)

**Note:** This Directive was issued as an Emergency AD on 17 September 2003.

### (3) Survitec Group Limited - Halo Passenger Lifejacket Emergency Breathing System (EBS)

	<b>Civil Aviation Authority</b> <b>AIRWORTHINESS DIRECTIVE</b> <b>Number: G-2021-0003</b> Issue date: 02 June 2021	
<p>Note: In this Airworthiness Directive references to EU regulations are to those regulations as retained and amended in UK domestic law under the European Union (Withdrawal) Act 2018 and are referenced as "UK Regulation (EU) year/number or UK Regulation (EU) No. number/year".</p> <p>This Airworthiness Directive (AD) is issued by the UK CAA, in accordance with UK Regulation (EU) No. 748/2012 Part 21.A.3B., acting as the Authority of the State of Design for the affected product(s) under Article 34 of the Air Navigation Order 2016 (ANO) and UK Regulation (EU) 2018/1139.</p> <p>In accordance with UK Regulation (EU) No. 1321/2014 Annex I, Part-M, M.A.301 / Annex VB ML, ML.A.301 the continuing airworthiness of an aircraft shall be ensured by accomplishing any applicable ADs. Consequently, no person may operate an aircraft to which an AD applies, except in accordance with the requirements of that AD, unless otherwise specified or agreed by the CAA [Part-M, M.A.303 / Part-ML, ML.A.303].</p> <p>This is a Final AD with Request for Comments and is issued in accordance with the UK CAA Continuing Airworthiness Process. All interested persons may send their comments, referencing the AD Number above, to the e-mail address specified in the 'Remarks' section, prior to the consultation date indicated.</p>		
Design Approval Holder's Name: <b>Survitec Group Limited</b>		Type/Model Designation(s): <b>Halo Passenger Lifejacket - Emergency Breathing System (EBS)</b>
TCDS:	ETSO	
Supersedure:	Not Applicable	
ATA 25	<b>Equipment / Furnishings – Life Jacket - Inspection</b>	
Manufacturer(s):	Survitec Group Ltd. t/a RFD Beaufort Ltd.	
Applicability:	Survitec Group Limited (hereafter referred to as "Survitec" in this AD) Emergency Breathing System (EBS) P/N 12677009 fitted to Halo Passenger Lifejacket P/Ns 00031010 and 00031031.	
Definitions:	<p>For the purpose of this AD, the following definitions apply:</p> <p><b>Affected part:</b> Emergency Breathing System (EBS) P/N 12677009, as fitted to the Survitec Halo passenger lifejacket P/Ns 00031010 and 00031031.</p> <p><b>Serviceable part:</b> Emergency Breathing System (EBS) P/N 12677009 as fitted to the Survitec Halo passenger lifejacket P/Ns 00031010 and 00031031, where Alert Service Bulletin 25-206-A has been accomplished.</p> <p><b>The SB:</b> Alert Service Bulletin 25-206-A, Version 1 dated 13 May 2021.</p>	

Civil Aviation Authority Airworthiness Directive

SARG

<b>Reason:</b>	<p>Whilst preparing to fit a new Emergency Breathing System (EBS) bottle to a lifejacket, the burst plug activated, discharging the contents of the EBS.</p> <p>Investigation determined that an incorrect burst plug had been fitted to the original EBS and instead of 4500 PSI / 310 BAR working pressure burst plug, the unit had been fitted with a 3000 PSI / 207 BAR working pressure burst plug.</p> <p>This condition, if not detected and corrected, could lead, in case of ditching, to failure of the EBS system in providing an alternative, or additional means to mitigate the risk of drowning.</p> <p>To address this potential unsafe condition, Survitec issued Alert Service Bulletin 25-206-A.</p> <p><b>For the reasons described above, this AD requires a one-time inspection of the burst plug and reporting the results of the inspection back to the manufacturer.</b></p>
<b>Effective Date:</b>	16 June 2021
<b>Required Action(s) and Compliance Time(s):</b>	<p>Required as indicated, unless accomplished previously: Check affected EBS as per Survitec Alert Service Bulletin 25-206-A Version 1 or later approved revisions.</p> <p><b>Inspection(s):</b> (1) Within 1 month after the effective date of this AD, perform inspection of the EBS in accordance with Alert Service Bulletin 25-206-A.</p> <p><b>Corrective Action(s):</b> (2) If, during any inspection as required by paragraph (1) of this AD, discrepancies are detected, purge the cylinder, remove and replace the affected part with a new or serviceable part, in accordance with Alert Service Bulletin 25-206-A.</p> <p><b>Parts Installation:</b> (3) Do not install an affected part on any aircraft unless Alert Service Bulletin 25-206-A Version 2, or later revisions, has been accomplished.</p>
<b>Reference Publications:</b>	Alert Service Bulletin 25-206-A Version 1

<b>Remarks:</b>	<ol style="list-style-type: none"><li>1. If requested and appropriately substantiated, CAA can approve Alternative Methods of Compliance for this AD.</li><li>2. Based on the required actions and the compliance time, CAA has decided to issue this AD and invite comments on its contents, within 30 days of the Effective Date of this AD.</li><li>3. Information about any failures, malfunctions, defects or other occurrences, which may be similar to the unsafe condition addressed by this AD, and which may occur, or have occurred on a product, part or appliance not affected by this AD, can be reported to the CAA aviation safety reporting system. This may include reporting on the same or similar components, other than those covered by the design to which this AD applies, if the same unsafe condition can exist or may develop on an aircraft with those components installed. Such components may be installed under an FAA Parts Manufacturer Approval (PMA), Supplemental Type Certificate (STC) or other modification.</li><li>4. Enquiries regarding this Airworthiness Directive should be referred to: <a href="mailto:Continued.Airworthiness@caa.co.uk">Continued.Airworthiness@caa.co.uk</a></li></ol>
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**(3) Survitec Group Ltd: Life Raft Heliraft 18R MK3**

Civil Aviation Authority

**AIRWORTHINESS DIRECTIVE****Number: G-2021-0004**

Issue date: 21 June 2021



Note: In this Airworthiness Directive, references to EU regulations are to those regulations as retained and amended in UK domestic law under the European Union (Withdrawal) Act 2018 and are referenced as "UK Regulation (EU) year/number or UK Regulation (EU) No. number/year".

This Airworthiness Directive (AD) is issued by the UK CAA, in accordance with UK Regulation (EU) No. 748/2012 Part 21.A.3B, acting as the Authority of the State of Design for the affected product(s) under Article 34 of the Air Navigation Order 2016 (ANO) and UK Regulation (EU) 2018/1139.

In accordance with UK Regulation (EU) No. 1321/2014 Annex I, (Part-M), M.A.301 / Annex VB (Part-ML), ML.A.301, the continuing airworthiness of an aircraft shall be ensured by accomplishing any applicable ADs. Consequently, no person may operate an aircraft to which an AD applies, except in accordance with the requirements of that AD, unless otherwise specified by the CAA [UK Regulation (EU) No. 1321/2014 Annex I, Part M.A.303/ML.A.303] or as agreed with the Authority of the State of Registry.

Design Approval Holder's Name: <b>Survitec Group Limited</b>	Type/Model Designation(s): <b>Life Raft Heliraft 18R MK3</b>
TCDS:	ETSOA
Supersedure:	Not Applicable
ATA 25	<b>Equipment / Furnishings – Life Raft - Inspection</b>
Manufacturer(s):	Survitec Group Ltd. t/a RFD Beaufort Ltd.
Applicability:	Survitec Group Limited (hereafter referred to as "Survitec" in this AD) Life Raft with packed assembly P/N 00051054 (Port) and 00051055 (Starboard).
Definitions:	<p>For the purpose of this AD, the following definitions apply:</p> <p><b>Affected part:</b> Survitec Life Raft Heliraft 18R MK3 with packed assembly P/N 00051054 (Port) and 00051055 (Starboard).</p> <p><b>Serviceable part:</b> Survitec Life Raft Heliraft 18R MK3 with packed assembly P/N 00051054 (Port) and 00051055 (Starboard) that have been serviced in accordance with Alert Service Bulletin 25- 197-A.</p> <p><b>The SB:</b> Alert Service Bulletin 25-197-A, Version 1 dated 19 June 2020</p>



Civil Aviation Authority Airworthiness Directive

SARG

<b>Reason:</b>	<p>While carrying out life raft deployment test, the life raft did not inflate properly, and the main seam of the buoyancy chamber ruptured.</p> <p>Investigation determined that this issue was most likely caused by adhesive degradation as a result of harsh environmental conditioning over time.</p> <p>This condition, if not detected and corrected, could lead, in case of ditching, to failure of the life raft to inflate correctly, possibly affecting the safety of occupants during such an event.</p> <p>To address this potential unsafe condition, Survitec issued Alert Service Bulletin 25-197-A, to provide inspection instructions.</p> <p>For the reasons described above, this AD requires a one-time inspection of the seam and a life raft stretch test and reporting the results of the inspection back to the manufacturer.</p>
<b>Effective Date:</b>	05 July 2021
<b>Required Action(s) and Compliance Time(s):</b>	<p>Required as indicated, unless accomplished previously: Check affected life raft as per Survitec Alert Service Bulletin 25- 197-A Version 1 or later revisions.</p> <p><b>Inspection(s):</b> (1) Within 12 months after the effective date of this AD, perform inspection and functional check of life raft in accordance with Alert Service Bulletin 25-197-A.</p> <p><b>Corrective Action(s):</b> (2) If, during any inspection and functional checks as required by paragraph (1) of this AD, discrepancies are detected, remove and replace the affected part with a new or serviceable part.</p> <p><b>Parts Installation:</b> (3) Do not install an affected part on any aircraft unless the part has been inspected and functionally checked in accordance with Alert Service Bulletin 25-197-A Version 1 or later revisions.</p> <p><b>Reporting:</b> (4) Within 30 days after accomplishment of the inspection and functional check, as required by paragraph (1) of this AD, report the inspection results (including no findings) to Survitec. Using the inspection report attached to the SB is an acceptable method to comply with this requirement.</p>
<b>Reference Publications:</b>	Alert Service Bulletin 25-197-A Version 1 RFD CMM 25-61-574.

<b>Remarks:</b>	<ol style="list-style-type: none"><li>1. This AD was published as Proposed AD 1978 and closed for consultation on 04 June 2021.</li><li>2. If requested and appropriately substantiated, CAA can approve Alternative Methods of Compliance for this AD.</li><li>3. Information about any failures, malfunctions, defects or other occurrences, which may be similar to the unsafe condition addressed by this AD, and which may occur, or have occurred on a product, part or appliance not affected by this AD, can be reported to the CAA aviation safety reporting system. This may include reporting on the same or similar components, other than those covered by the design to which this AD applies, if the same unsafe condition can exist or may develop on an aircraft with those components installed. Such components may be installed under an FAA Parts Manufacturer Approval (PMA), Supplemental Type Certificate (STC) or other modification.</li><li>4. Enquiries regarding this Airworthiness Directive should be referred to: <a href="mailto:Continued.Airworthiness@caa.co.uk">Continued.Airworthiness@caa.co.uk</a></li><li>5. For any question concerning the technical content of the requirements in this AD, please contact: Survitec Group Limited, Kingsway, Dunmurry, Belfast BT17 9AF Northern Ireland; Telephone +44 2890 301531, Facsimile +44 2890 621765; E-mail: <a href="mailto:Steve.Pickering@Survitecgroup.com">Steve.Pickering@Survitecgroup.com</a></li></ol>
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## Additional Airworthiness Directives

### 001-05-99

#### (2) Installation of Helicopter Health and Usage Monitoring Systems

Applicable to helicopters operated for the purposes of Public Transport, which have a maximum approved seating configuration of more than nine passengers. This Directive is not applicable to helicopters certificated to BCAR 29 (AS332 L2) and CS 29 (currently EH101 310/510).

Compliance with 2) is required not later than 12 months from the effective date of this Directive, which is 7 June 1999, for helicopters currently fitted with CAA approved health monitoring system installations. Compliance with 1) and 2) is required not later than 24 months from the effective date of this Directive for all other applicable helicopters.

Comply with the following requirements:

- 1 Install a health monitoring system approved for the type.
- 2 Implement procedures acceptable to the CAA covering all aspects of data collection, analysis and determination of serviceability. CAA Publication CAP 693 is an acceptable means for compliance with this Directive.

NOTE: Approval for the installation of the health monitoring systems referred to in 1) above has been granted under the following Airworthiness Approval Note (AAN) references:

Eurocopter AS332 Series	AAN	19335
	AAN	21700
	AAN	21919
	AAN 22775	
Sikorsky S61 Series	AAN	21013
	AAN	21699
	AAN	21921
	AAN 25870	
Eurocopter SA365 Series	AAN 22637	
Sikorsky S76 Series	AAN	22372
	AAN	25221
	AAN 26209	
Bell 212 Series	AAN 22371	
Bell 214 Series	AAN 22370	

## RAF Radio Equipment

**CAA AD No:** 1277 PRE 80

**Associated:** RAF AM 905

**Description:** Prevention of carbon dust deposit on the underside of IF unit.

**Applicability – Compliance – Requirement Material**

Applicable to RAF TR1520, TR1920, TR1934, TR1935, TR1936, TR1985, TR1986, TR1987 radio equipment. Compliance required before installation 1520/1920.

**CAA AD No:** 1278 PRE 80

**Associated:** RAF AM 693

**Description:** To prevent overheating of relay type 1032.

**Applicability – Compliance – Requirement Material**

Applicable to RAF TR1520, TR1920, TR1934, TR1935, TR1936, TR1985, TR1986, TR1987 radio equipment. Compliance required before installation 1520/1920.

**CAA AD No:** 1279 PRE 80

**Associated:** RAF AM 2192

**Description:** To enable 10XJ/- Type crystals to be used in transmitter unit.

**Applicability – Compliance – Requirement Material**

Applicable to RAF TR1520, TR1920, TR1934, TR1935, TR1936, TR1985, TR1986, TR1987 radio equipment. Compliance required before installation 1520/1920/1934/1935/1936.

**CAA AD No:** 1280 PRE 80

**Associated:** RAF AM 2353

**Description:** To prevent intermittent reception due to pressure of the co-axial lead to the IF assembly on 3026.

**Applicability – Compliance – Requirement Material**

Applicable to RAF TR1520, TR1920, TR1934, TR1935, TR1936, TR1985, TR1986, TR1987 radio equipment. Compliance required before installation 1520/1920.

**CAA AD No:** 1281 PRE 80

**Associated:** RAF AM 2474

**Description:** To prevent high noise level due to use of brushes type IM7.

**Applicability – Compliance – Requirement Material**

Applicable to RAF TR1520, TR1920, TR1934, TR1935, TR1936, TR1985, TR1986, TR1987 radio equipment. Compliance required before installation 1520/1920/1934/1935/1936/1985/1986/1987.

**CAA AD No:** 1282 PRE 80

**Associated:** RAF AM 2565

**Description:** To prevent instability when switched to transmit position.

**Applicability – Compliance – Requirement Material**

Applicable to RAF TR1520, TR1920, TR1934, TR1935, TR1936, TR1985, TR1986, TR1987 radio equipment. Compliance required before installation 1520/1920/1934/1935/1936.

**CAA AD No:** 1283 PRE 80

**Associated:** RAF AM 2560

**Description:** To restrict the voltage across crystal to a maximum of 25 volts.

**Applicability – Compliance – Requirement Material**

Applicable to RAF TR1520, TR1920, TR1934, TR1935, TR1936, TR1985, TR1986, TR1987 radio equipment. Compliance required before installation 1520/1920/1934/1935/1936.

**CAA AD No:** 1284 PRE 80

**Associated:** RAF AM 2499

**Description:** Replacement of capacitors C5, C6 and C26 in transmitter and C26 in receiver with non waxed type.

**Applicability – Compliance – Requirement Material**

Applicable to RAF TR1520, TR1920, TR1934, TR1935, TR1936, TR1985, TR1986, TR1987 radio equipment. Compliance required before installation 1520/1920/1934/1935/1936/1985/1986/1987.

**CAA AD No:** 1285 PRE 80

**Associated:** RAF AM 3774

**Description:** To suppress instability in the Modulator unit.

**Applicability – Compliance – Requirement Material**

Applicable to RAF TR1520, TR1920, TR1934, TR1935, TR1936, TR1985, TR1986, TR1987 radio equipment. Compliance required not later than 31 July 1975. 1520/1920/1934/1935/1936/1985/1986/1987.

**CAA AD No:** 1286 PRE 80

**Associated:** RAF AM 689/3

**Description:** Fuse protection for HT circuit.

**Applicability – Compliance – Requirement Material**

Applicable to Power Units Type 15 and 16. Compliance required before installation.


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## Part 2 State of Design Airworthiness Directives not Adopted by the CAA (from 01/01/2021)

This Section 2, Part 2 contains CAA Decisions not to adopt State of Design Airworthiness Directives, from 01/01/2021.

<b>No</b>	<b>AD Reference</b>	<b>Title</b>	<b>Date</b>
<u>1</u>	<u>FAA AD 2020-26-16</u>	<u>Decision not to Adopt FAA AD 2020-26-16: Piper PA-28 and PA-32 aeroplanes</u>	<u>17 March 2021</u>

**(1) Decision not to Adopt FAA AD 2020-26-16: Piper PA-28 and PA-32 aeroplanes**

	<p><b>Civil Aviation Authority</b></p> <p><b>DECISION NOT TO ADOPT FAA AD 2020-26-16</b></p>
<p><b>CAA considerations, leading to the decision not to adopt Federal Aviation Administration (FAA) AD 2020-26-16</b></p> <p>On 15 January 2021, the FAA issued AD 2020-26-16, applicable to certain Piper PA-28 and PA-32 series aeroplanes.</p> <p>That AD requires calculating the factored service hours for each main wing spar to determine when inspection is required, a one-time inspection of the inner surface of the two lower outboard bolt holes on each lower main wing spar to detect cracks, and, depending on findings, replacing the cracked main wing spar.</p> <p>Although the CAA agrees with the need for inspection, it is not possible to apply the method of 'factoring' hours within the FAA AD to determine when an inspection is required. This is due to differences in operation and maintenance requirements between the CAA/EASA system and the FAA system.</p> <p>For the reason described above, the CAA has decided not to adopt FAA AD 2020-26-16. However, the CAA has issued a Proposed AD to address the safety risk addressed by FAA AD 2020-26-16 for aeroplanes operating under EU regulation.</p> <p>For further information, please contact the CAA General Aviation Unit E-mail: <a href="mailto:ga@caa.co.uk">ga@caa.co.uk</a></p> <p>17 March 2021</p>	



## Part 3 Requirements applicable to State/public service aircraft

- Key:
- (1) Notified under Article 70 of Regulation (EU) No. 2018/1139 for Part 21 aircraft.
  - (2) Applied under UK ANO for non-Part 21 aircraft.
  - (3) Maintenance/Operations related and applied under Part M or the UK ANO.

### 1 Classification of aircraft as “carrying out military, customs, police, search and rescue, firefighting, border control, coastguard or similar activities or services”


- 1.1 Article 2 of Regulation (EU) No. 2018/1139, specifies that any individual aircraft carrying out military, customs, police, search and rescue, firefighting, border control, coastguard or similar activities or services remains subject to national regulation, even if other aircraft of the same type, that are not carrying out such activities, are subject to Regulation (EU) No. 2018/1139 and its Annexes.
- 1.2 The United Kingdom’s interpretation is that the UK aircraft excluded by Article 2 of Regulation (EU) No. 2018/1139 are:
  - a) Any aircraft engaged in the service of the UK Ministry of Defence;
  - b) Any aircraft engaged in the service of a Chief Officer of Police;
  - c) Any aircraft engaged in the service of HM Revenue and Customs; and
  - d) Any aircraft (whether or not in the service of the UK Government) engaged to undertake search and rescue, firefighting, coastguard duties, fisheries patrol, border/immigration control, or to safeguard national security.

Where there is doubt over the status of any particular aircraft with respect to Article 2 of Regulation (EU) No. 2018/1139, clarification should be sought from the CAA.

### 2 Compliance with Mandatory Requirements for Airworthiness in accordance with the Air Navigation Order

- 2.1 The categories of requirements that must be complied with by aircraft registered in the UK and “carrying out military, customs, police, search and rescue, firefighting, border control, coastguard or similar activities or services”, are specified in Section 1, Part 1 of CAP 747, which references this Section 2 Part 3.
- 2.2 This Section 2 Part 2 contains the further requirements applied by the CAA under the Air Navigation Order to aircraft carrying out military, customs, police, search and rescue, firefighting, border control, coastguard or similar activities or services and any engine, propeller, part or appliance installed in that aircraft.

**(1) MD 900 (902 configuration)**

	<b>United Kingdom Civil Aviation Authority</b>	<b>EMERGENCY AIRWORTHINESS DIRECTIVE</b>	
		<b>AD No: G-2008-0005R1</b> Issue Date: 24 October 2008	
<p>This AD is issued by the UK CAA as the National Aviation Authority (ICAO Annex 8 Authority of State of Registry) for the affected product(s).          In accordance with Article 10 of the Air Navigation Order 2005 as amended the following action required by this Airworthiness Directive (AD) is mandatory for applicable aircraft registered in the United Kingdom.          No person may operate an aircraft to which an AD applies except in accordance with the requirements of that AD unless otherwise agreed with the Authority of the State of Registry.</p>			
<b>Type Approval Holder's Name:</b> <b>MD Helicopters Inc. (MDHI)</b>		<b>Type/Model Designation(s):</b> <b>MD900 (902 configuration)</b>	
<b>TCDS:</b>	(FAA) H19NM		
<b>Supersedure:</b>	N/A		
<b>ATA</b>	PLACARDS		
<b>Manufacturer(s):</b>	MD Helicopters Inc.		
<b>Applicability:</b>	All MD900 (902 configuration) helicopters and in accordance with the operating rules		
<b>Reason:</b>	Variation of the terms of FAA AD 2008-22-53 and MDHI SB900-110 (by clarification of the intended operational limitation) to allow continued Night VMC operation for the UK MD900 Police fleet and to allow 'Special VFR' operation.		
<b>Effective Date:</b>	24 October 2008		
<b>Compliance/Action:</b>	The wording of the final sentence of the placard specified in paragraph (c) of FAA Emergency Airworthiness Directive 2008-22-53; "VFR FLIGHT ONLY, AUTOPILOT OFF" can be altered to "ONLY (DAY OR NIGHT) VMC FLIGHT IS PERMITTED, AUTOPILOT OFF".		
<b>Reference Publications:</b>	MDHI Service Bulletin SB900-110 may be obtained from mdhelicopters.com. FAA AD 2008-22-53 may be obtained from the FAA website.		
<b>Remarks:</b>	Enquiries regarding this Airworthiness Directive should be referred to Civil Aviation Authority, Aircraft Certification Department, Safety Regulation Group, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom.		
	Tel: +44 (0)1293 573802		Fax: +44 (0)1293 573993
	Email: ad.unit@caa.co.uk		

## Part 4 Generic Requirements (GRs)

This Section 2, Part 4 notifies Generic Requirements, including those which were published previously as Airworthiness Notices in CAP 455. These Generic Requirements are listed below with their applicability.

**Table 1 Current Generic Requirements**

GR No.	Title	Applicability		*Basis of Applicability
		Part 21 Aircraft	Non-Part 21 Aircraft	
4	Electrical Generation Systems – Aircraft Not Exceeding 5,700 kg Maximum Authorised Weight	Yes	Yes	1 and 2
6	Electrical Generation Systems – Bus-Bar Low Voltage Warning Single-Engined Aircraft With a UK Certificate of Airworthiness	Yes	Yes	1 and 2
8	Cotton, Linen and Synthetic Fabric-Covered Aircraft	Yes	Yes	3
9	Helicopter Emergency Escape Facilities	Yes	Yes	3
10	Painting of Aircraft	Yes	Yes	3
11	Maintenance of Cockpit and Cabin Combustion Heaters and their associated Exhaust Systems	Yes	Yes	3
15	Light Aircraft Maintenance Schedule (Non-EASA Aircraft – Annex I)	No	Yes	2
16	Tyre Bursts In Flight – Inflation Media	Yes	Yes	3
17	Maintenance Requirements for Variable Pitch Propellers Installed on Aircraft Holding a UK Certificate of Airworthiness	No	Yes	2
18	Electrical Power Supplies for Aircraft Radio Systems	No	Yes	2
19	Emergency Power Supply for Electrically Operated Gyroscopic Bank and Pitch Indicators (Artificial Horizons)	No	Yes	2
23	Maintenance Personnel Certification for Non-Destructive Testing of Aircraft, Engines, Components and Materials	Yes	Yes	3
24	Light Aircraft Piston Engine Overhaul Periods	No	Yes	2
25	Aerobatic Smoke Systems	No	Yes	3

- \* 1 Notified under Article 70 of Regulation (EU) No. 2018/1139 for Part 21 aircraft.  
 2 Applied under UK ANO for non-Part 21 aircraft.  
 3 Maintenance/Operations related and applied under Part M or the UK ANO.

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## **GR No. 4                      Electrical Generation Systems – Aircraft Not Exceeding 5,700 kg Maximum Authorised Weight**

(Previously issued as Airworthiness Notice No. 82, Issue 2, 29 October 2001.)

### **1            Introduction**

- 1.1        Investigations into accidents and incidents involving total loss of generated electrical power to aircraft, the maximum authorised weight of which does not exceed 5,700 kg, have shown certain inadequacies in the standard of failure warnings and indications provided. Experience has shown that the loss of generated electrical power can remain undetected for a significant period of time, resulting in the serious depletion of the available battery capacity and reduced duration of supplies to essential services under these conditions.
- 1.2        This Generic Requirement is for the retrospective modification of certain aircraft to ensure that a clear and unmistakable warning of loss of generated electrical power is given, and to preserve or provide sufficient electrical energy to operate essential services for an adequate period of time in the event of such a loss occurring.

### **2            Requirement**

- 2.1        For all multi-engined aircraft, the maximum authorised weight of which does not exceed 5,700 kg, compliance with paragraphs 2.2, 2.3, 2.4 and 2.5 of this Requirement, or with a CAA or EASA approved alternative (as appropriate) providing an equivalent level of airworthiness, is required.
  - 2.1.1      Where it can be shown that an aircraft is fitted with such limited electrical and radio equipment, or is certificated to operate under such limited conditions (e.g. VMC day only) that the loss of generated electrical power would not significantly prejudice safe flight, the CAA will, on application, waive this Generic Requirement where it is satisfied that compliance would not be justified in the circumstances of a particular case.
- 2.2        Clear visual warning shall be provided, within the pilot's normal line of sight, to give indication of, either:
  - a) reduction of the generating system voltage to a level where the battery commences to support any part of the main electrical load of the aircraft, or
  - b) loss of the output of each engine driven generator at the main distribution point or busbars.
- 2.3        The battery capacity shall be such that, in the event of a complete loss of generated electrical power, adequate power will be available for a period of not less than 30 minutes following the failure, to support those services essential to the continued safe flight and landing of the aircraft, (see paragraph 3.1). This includes an assumed period of not less than 10 minutes from operation of the warning specified in paragraph 2.2, for completion of the appropriate drills. This delay period may be reduced to not less than five minutes if the warning system is provided with attention getting characteristics (e.g. a flashing light). For the purpose of calculations it shall be assumed that the electrical load conditions at the time of failure warning are those appropriate to normal cruising flight at night (see paragraph 3).

- 2.4 Where all gyroscopic attitude reference instruments, i.e. bank and pitch indicator(s) and turn and slip indicator(s), are dependent on electrical power for their operation, at least one of these instruments shall continue to operate without crew action for the prescribed 30 minute period.

- NOTES**
- 1 For certain aircraft types a turn and slip indicator may not be acceptable as the sole remaining attitude reference instrument.
  - 2 Certain aircraft are equipped with both electrically operated and air driven attitude reference instruments. In such cases the air driven instrument(s) will be accepted as providing the emergency attitude information provided that the requirements of paragraph 2.4.1 are met.

- 2.4.1 The instrument(s) with which the requirement of paragraph 2.4 will be met shall be clearly designated, and:

- a) shall be so located on the instrument panel that it will be visible to, and usable by, the pilot from his normal position;
- b) shall be provided with means of indicating that the power supply to the instrument is operating correctly.

- 2.5 Precise drills covering crew action in the event of electrical generation system failures and malfunctions shall be included in the appropriate aircraft manual(s), together with a statement of the battery endurance under specified load conditions.

### 3 Additional Information

- 3.1 When ascertaining that the installed aircraft battery capacity is adequate for compliance with paragraph 2.3, the following loads should be taken into account:

- a) Attitude information (where applicable in accordance with paragraph 2.4).
- b) Essential Radio Communication.

**NOTE:** For the purpose of calculations it will normally be accepted that intermittent use of a single VHF communication equipment satisfies this requirement. Utilisation on the basis of a total of 15 minutes reception plus 3 minutes transmission in the 30 minute period would be an acceptable interpretation.

- c) Essential cockpit lighting.
- d) Pitot Head Heater (applicable only to those aircraft certificated for flight in icing conditions).
- e) Any other services essential for the continued safe flight and landing of the particular aircraft.
- f) Those services that cannot readily be shed when carrying out the drills required under paragraph 2.5.

- 3.1.1 In order to ensure that the essential services, taken into account in accordance with paragraph 3.1, will function adequately for the prescribed period, the calculation of the duration of battery supply should normally be based on the following assumptions:

- a) Only 75% of the 'name plate' rating of the battery is available (this is to take into consideration loss of capacity with age, and a realistic state of charge).
- b) The voltage/time discharge characteristic of the battery, appropriate to the load of the listed services, is not extended beyond a battery terminal voltage of 21.5 volts on a 24 volt system, pro rata for 12 volt systems, (this is to ensure that the voltage

available throughout the prescribed period is adequate for the satisfactory operation of the services).

**NOTE:** Only where compliance with this Requirement cannot be shown within the criteria of paragraphs 3.1 and 3.1.1, will consideration have to be given to the fitment of additional, or larger capacity, batteries to particular aircraft.

- 3.2 Applications for the approval of modifications necessary to ensure compliance with this Generic Requirement should be made in the manner specified in BCAR Sections A and B, Chapters A2-5 and B2-5, or Part 21 as appropriate.

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## **GR No. 6                      Electrical Generation Systems – Bus-Bar Low Voltage Warning Single-Engined Aircraft With a UK Certificate of Airworthiness**

(Previously Issued as Airworthiness Notice No. 88, Issue 3, 29 October 2001.)

### **1            Introduction**

- 1.1        When Generic Requirement No. 4 (as Airworthiness Notice No. 82) was introduced in June 1973, it was considered inappropriate to impose the whole or part of those requirements on single-engined aircraft. Since that time, systems which were once fitted only in the more complicated twin-engined general aviation aircraft, have now been developed and fitted to single-engined aircraft. Thus, greater reliance is being placed on the integrity of the electrical power supplies for such aircraft.
- 1.2        As a result of the above, this Requirement was published as Airworthiness Notice 88, Issue 1, in December 1986. This required certain single-engined aircraft to be equipped with low voltage warning devices to give indication to the pilot of when the aircraft's battery commences to support all or part of the electrical load of the aircraft. Compliance was required by 1 January 1988.
- 1.3        Since that time, a number of incidents and accidents have continued to occur on single-engined aircraft equipped with electrically operated systems. Investigations have shown that a general misunderstanding exists as to the categories of single engined aircraft (depending upon the level of equipment installed) that have to be equipped with low voltage warning devices.
- 1.4        The purpose of this Requirement is to extend and clarify the need for a clear and unmistakable warning of the loss of generated electrical power (to the main bus-bar) as detailed in paragraph 2.1.1. This will be by the introduction, where necessary, of retrospective modifications.

### **2            Requirements**

- 2.1        For all single-engined aircraft with a UK Certificate of Airworthiness (not already modified to meet the requirements of Issue 1 of Airworthiness Notice No. 88) equipped with an engine driven electrical generating system, compliance with paragraphs 2.2 and 2.3, or with an approved alternative, providing an equivalent level of airworthiness, is required not later than 31 December 1992, or next annual check whichever is the latest.
  - 2.1.1      Where an aircraft is equipped to operate under day VMC conditions only and the loss of the generated electrical power could not prejudice safe flight and landing, the requirements of this GR are considered to be satisfied without the provision of a specific warning.
- 2.2        A clear and unmistakable red visual warning shall be provided, within the pilot's normal scan of vision, to give indication of the reduction of the voltage at the aircraft bus-bar to a level where the battery commences to support all or part of the electrical load of the aircraft.
- 2.3        Guidance shall be given in the appropriate aircraft manual(s) on any actions to be taken by the pilot should the warning operate. (See also paragraph 3.2.)

### **3 Additional Information**

- 3.1 The recommended voltage levels for operating the warning required under paragraph 2.2 of this Requirement are 25 volts to 25.5 volts for a nominal 24 volt dc system and 12.5 volts to 13 volts for a nominal 12 volt dc system.
- 3.2 The battery duration should be sufficient to make a safe landing and should be not less than 30 minutes, subject to the prompt completion of any drills. This duration need only be a reasonable estimate and not necessarily calculated by a detailed electrical load analysis. However, when making this estimate, only 75% of the battery nameplate capacity should be considered as available because of loss of battery efficiency during service.
- 3.3 Owners and operators are recommended to contact the aircraft manufacturer or main agent for information regarding suitable means of compliance with this Requirement.
- 3.4 Owners and operators may, on application, submit proposals for their own means of compliance and should refer to the guidelines laid down in CAP 562, Civil Aircraft Airworthiness Information and Procedures (CAAIP) Leaflet 24-50.

## **GR No. 8 Cotton, Linen and Synthetic Fabric-Covered Aircraft**

(Previously Issued as Airworthiness Notice No. 20, Issue 8, 20 March 2000.)

### **1 Introduction**

This Generic Requirement applies to the issue or renewal of Airworthiness Certificates, or, where appropriate, their associated Airworthiness Review Certificate (ARC) applicable to aircraft, excluding Microlights, that have fabric covering. Fabric coverings may be manufactured from natural materials such as linen or cotton, or other Aviation Approved fabrics produced from polyester or glass fibre.

### **2 Structural Damage and Deterioration**

- 2.1 Removal of the fabric covering of some older types of aircraft has revealed cases of unsuspected structural damage and deterioration. It is therefore important that during routine inspections, any sign of distortion, slackness, wrinkling or discoloration of the covering material is investigated and the cause established.
- 2.2 The use of good maintenance practices, incorporation of adequate and correctly placed drain holes, regular cleaning, and storage of the aircraft in a dry hangar will retard deterioration. Damage will be reduced by using proper ground handling techniques and equipment. Planned periodic inspections of aircraft coverings, structural elements and their attachments are essential in preventing damage and deterioration from going unnoticed.
- 2.3 Following incidents such as heavy landings, high “g” loadings, ground loops and collisions, the aircraft must be inspected to detect any hidden damage or distortion.
- 2.3.1 This may involve removal of the covering material or provision of access openings and may include inspections using NDT techniques. Experience has shown that structures can appear undamaged until manually loaded during a physical check. Wherever possible, the manufacturer’s inspection recommendations should be used. In the absence of specific guidance, refer to CAA CAP 562 – Civil Aircraft Airworthiness Information and Procedures (CAAIP) and/or consult a specialist organisation.
- 2.4 Details of the incident, inspections/repairs carried out should always be entered in the aircraft log book.

### **3 Fabric Coverings**

- 3.1 Many factors can influence the life and condition of covering fabrics, such as: age, contamination, exposure to high humidity, ultra violet light, utilisation and type of operation for which the aircraft has been employed. The type of covering material used will also need to be ascertained as natural materials are much more susceptible to adverse climatic conditions than synthetic materials. However, the improved longevity of synthetic materials often means that internal structures are inspected much less frequently and deterioration can go undetected.
- 3.2 The airworthiness of covering fabrics should be assessed using a method acceptable to the CAA, these being detailed in the Manufacturer’s Airworthiness data or where appropriate CAAIP Leaflet 51-150.

**NOTE:** With suitable training and experience an engineer can usually assess the condition of fabric covering by its appearance, tension and reaction to thumb pressure. Failing this ability, a suitable type of fabric tester should be used. The tester and its method of operation are described in CAAIP Leaflet 51-150.

- 3.3 Cotton and linen fabrics may be replaced with synthetic materials providing they are of a type manufactured and approved for aeronautical use in their country of origin and acceptable (see 3.4 below) as an alternative covering material. Replacement materials must also be appropriate for the intended purpose having properties no less than the original fabric in terms of strength and durability. Application must be in accordance with the applicable procedures with control surfaces re-balanced to the original limits specified. Rib stringing and other materials must have a compatible life expectancy to the replacement covering.

**NOTE:** Care must be exercised when tautening synthetic fabric using the application of heat. Lightly built wooden structures covered with these materials can become distorted or crushed during the shrinking process. The application of non-tautening dope should be also considered in these cases.

- 3.4 The use of a replacement fabric must be covered by an approved modification, either from an appropriately approved design organisation or through the CAA or EASA as appropriate.
- 3.5 Fabric is classified as a material rather than as a part/component and, subject to the requirements of paragraph 3.4, may be used when the organisation is satisfied that the material meets the required specification and has appropriate traceability. All material must be accompanied by documentation clearly relating to the particular material and containing a conformity to specification statement plus both the manufacturing and supplier source.

## 4 Certification Requirements

### 4.1 Certificates of Airworthiness

- 4.1.1 Certificates of Airworthiness and/or associated ARC will only be issued and may only be recommended for renewal in respect of used aircraft if the requirements of paragraphs 4.1.2 and 4.1.3 have been complied with.
- 4.1.2 Certified evidence must be produced to show that an internal inspection sufficient to establish continued structural integrity has been carried out within the period specified in the applicable Maintenance Schedule. The depth of the inspection must be relative to the age of the aircraft, inspection history, known usage, storage conditions/hangarage and the elapsed time since the last full inspection. This should be determined by the certifying person using data from the organisation responsible for Type Design, a maintenance programme agreed by the CAA and the guidance material contained in CAAIP. Access holes may have to be cut to facilitate inspections and these reinforced in accordance with the manufacturers requirements (refer to covering schedule).
- 4.1.3 Certification of the inspections and work carried out must be made by an appropriately Licensed Aircraft Maintenance Engineer, persons specifically Authorised for the purpose or personnel operating under the approval granted to a Maintenance Organisation. Log book entries must be made in sufficient detail to provide an accurate record indicating the extent of the access, inspections carried out, repairs and overhauls performed, and any recovering required since the last structural inspection including reference to the applicable modification approval.

**NOTE:** CAP 562 Leaflet H-20 describes the certification responsibilities of UK Licensed Aircraft Maintenance Engineers in relation to Articles 25 and 26 and 28 to 31 of the Air Navigation (2009) Order (as amended) and Part 145A.50.

## 4.2 Permits to Fly

- 4.2.1 Permits to Fly and/or associated ARC will only be issued and may only be recommended for renewal in respect of used aircraft if the requirements of paragraph 4.2.2 have been complied with.
- 4.2.2 At initial issue or the first annual inspection (as applicable) after the 1st October 1999, all fabric covered aircraft must be internally inspected to establish and suitably record their structural integrity. The depth of the inspection must be relative to the age of the aircraft, inspection history, known usage, storage conditions/hangarage and the elapsed time since the last full inspection. This must be certified by persons specifically authorised by the CAA or an organisation approved by the CAA to issue a Flight Release Certificate in order to qualify for issue or renewal of the Permit to Fly. Thereafter, inspections must be performed at a frequency not exceeding 3 years. Access holes may have to be cut to facilitate inspections and these reinforced in accordance with the design requirements (refer to covering schedule).
- 4.2.3 Log book entries must be made in sufficient detail to provide an accurate record indicating the extent of the access, inspections carried out, repairs and overhauls performed and any re-covering required since the last structural inspection including reference to the applicable modification approval.

## 5 Guidance

- 5.1 Guidance material relating to fabric covered aircraft may be found in a number of publications which include:
- CAAIP Leaflet 51-150 Fabric Covering
  - CAAIP Leaflet 51-160 Doping
  - CAAIP Leaflet 51-10 Inspection of Wooden Structures
  - CAAIP Leaflet 51-50 Inspection of Metal Aircraft Structures
  - CAAIP Leaflet 51-120 Rigging checks on Aircraft
  - FAA AC 43.13 Acceptable Methods, Techniques and Practices
- 5.2 Attention is drawn to CAAIP Leaflet 51-20 which refers to deterioration in wooden structures and in glued joints in aircraft, and British Civil Airworthiness Requirements (BCAR) A3-7 Issue and Renewal of Permits to Fly.

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## GR No. 9 Helicopter Emergency Escape Facilities

(Previously Issued as Airworthiness Notice No. 27, Issue 3, 29 October 2001.)

### 1 Applicability

1.1 This Generic Requirement is applicable to those UK registered helicopters required to carry the equipment specified in the Air Navigation Order 2009 (as amended) Schedule 4 paragraph 4(13) (d) (v) (cc) and being operated:

- a) for the carriage of passengers or cargo to or from vessels or installations used in connection with oil or gas exploration or exploitation; or
- b) for the transfer of personnel to or from vessels or lighthouses.

Additionally, this Generic Requirement also applies to helicopters being operated:

- c) over the sea or tidal estuaries in association with pollution monitoring; and
- d) in a dedicated offshore Search and Rescue role.

### 2 Introduction

2.1 In 1985, a programme of review and improvement of helicopter post-ditching escape facilities was carried out jointly by the CAA and the operators concerned with offshore helicopter operation. Following this review the CAA issued a Direction to Operators requiring action on certain aspects of survival systems, to retrospectively apply recently introduced airworthiness requirements.

2.2 Directions issued to specific operators are not a usual means of promulgating such requirements, but are used only on rare occasions where action needs to be taken as a matter of urgency on a number of different aircraft types. This Generic Requirement is necessary to ensure that the applicability of the relevant requirements is drawn to the attention of all concerned.

### 3 Compliance

Compliance is required prior to operating any helicopter defined in paragraph 1 above.

### 4 Requirements

**NOTE:** For all references to BCAR requirements, equivalent requirements agreed with the CAA may be acceptable.

4.1 All liferaft installations shall comply with the requirements of BCAR 29.1411(d) (3), which require liferaft installations to be suitable for use in all sea conditions in which helicopter ditching, flotation and trim are required to be evaluated.

4.2 All Emergency Exits, including crew Emergency Exits, shall be marked and illuminated to comply with BCAR 29.811(a), which requires exit marking to remain adequate if the helicopter capsizes after ditching and the cabin becomes submerged.

**NOTE:** Guidance on the interpretation of this requirement is in paragraph 1 of CAAIP Leaflet 44-30.

- 4.3 All non-jettisonable doors of Ditching Emergency Exits shall comply with BCAR 29.809(i), which requires such doors to have means of securing them in the open position so they do not interfere with occupants egress in all sea conditions up to the maximum required to be evaluated for ditching and flotation.
- 4.4 All openings in passenger compartments agreed by the CAA as suitable for the purpose of underwater escape shall be equipped so as to be openable in an emergency.
- NOTE:** This means that all openings such as windows of a suitable size shall be made openable from inside the helicopter. Further advice on interpretation of this requirement is contained in paragraph 2 of CAAIP Leaflet 44-30.

## 5 Additional Information

- 5.1 CAA Specification No. 2 requires helicopter liferafts to have a high level of damage tolerance. This can be provided in part by design of the liferaft, but action is also necessary to minimise the chances of liferaft damage while the liferaft is on the water adjacent to the helicopter, due to projections on the exterior of a helicopter.
- 5.1.1 Examples of projections which need to be considered are aerials, overboard vents, unprotected split pin tails, guttering and any projection sharper than a three dimensional right angled corner.
- 5.2 It is recommended that all projections likely to cause damage in a zone delineated by boundaries which are approximately 1.22 m (4 ft) above and 0.61 m (2 ft) below the established static water line, should be modified or suitably protected to minimise the likelihood of their causing damage to a deployed liferaft, and that all relevant approved maintenance schedules should be amended to ensure that such protection remains effective.
- 5.2.1 While the boundaries specified in paragraph 5.2 are intended as a guide, the total area which should be considered should also take into account the likely behaviour of the liferaft after deployment in all sea states up to the maximum in which the helicopter is capable of remaining upright.
- 5.3 Operators and maintenance organisations are reminded that wherever a modification or alteration is made to a helicopter within the boundaries specified, consideration should be given to affording such protection as may be required to prevent the modification or alteration causing damage to a deployed liferaft.
- 5.4 Particular care should also be taken during routine maintenance to ensure that additional hazards are not introduced by, for example, leaving inspection panels with sharp corners proud of the surrounding fuselage surface, or allowing door sills to deteriorate to a point where sharp edges become a hazard.
- 5.5 The same considerations apply in respect of emergency flotation equipment.
- 5.6 As part of the overall assessment of flotation equipment and its operation brought about by the issue of the Direction, the maintenance aspects of the various systems were examined. This resulted in a rationalisation of all the relevant approved maintenance schedules to ensure a common approach to the maintenance of flotation systems across different operators fleets. Operators should therefore, ensure that the established common approach to the maintenance of on board flotation equipment is continued.



## GR No. 10                      Painting of Aircraft

(Previously Issued as Airworthiness Notice No. 38, Issue 5, 28 September 2004.)

**NOTE:** This text dated 21 July 2017 is a complete replacement of previous versions.

### 1                      **Applicability**

This Generic Requirement is applicable to all UK registered aircraft issued with a Certificate of Airworthiness or Permit to Fly.

### 2                      **Introduction**

Experience has shown that control has to be exercised over the painting of aircraft exterior surfaces. The removal and application of paint is only part of the process, Design Approval Holders (DAH) instructions for surface finish changes also include maintenance requirements. These could include, panel/component removal and refit, structural inspections, function checks and aircraft weighing. The term painting embraces the associated processes of stripping and such terms as refinishing and refurbishing, as well as preparation, inspection and the return to service. Satisfactory maintenance control must be exercised over the painting of an aircraft.

It is recommended that aircraft issued with a Permit to Fly are subject to the same practices set out in this Generic Requirement and that a Permit Maintenance Release is issued on completion of changes to the external finish.

### 3                      **Compliance**

3.1 All aircraft defined in paragraph 1 which are to have their external finish altered, shall comply with this Generic Requirement.

3.2 The proposed paint task must be assessed for its impact on airworthiness, taking into account the aircraft manufacturer's published requirements and precautions and the content of this GR.

3.3 The task of painting an aircraft or making a change to its surface finish, such as paint removal and subsequent polishing, is a maintenance task and consequently a Certificate of Release to Service must be issued upon completion of the process.

3.4 Painting requires the use of the correct equipment and control over the environment where painting is performed. Simple paintwork repairs and paint touch-up of small areas may be completed in a Line Maintenance environment, where environmental conditions are suitable. All other tasks must be carried out in a Base Maintenance environment.

**NOTE:** Line Maintenance is defined as any maintenance that is carried out before flight to ensure that the aircraft is fit for the intended flight. (This includes minor repairs and modifications which do not require extensive disassembly and can be accomplished by simple means.) Maintenance tasks falling outside of these criteria are considered to be Base Maintenance.

3.5 The owner/operator, or its continuing airworthiness management organisation must ensure that the aircraft is placed under the responsibility and control of a licensed engineer or an approved maintenance organisation as appropriate for the aircraft. This individual/organisation will be responsible for the painting process and any associated

maintenance, to ensure that the task is completed in accordance with approved data and to subsequently to issue the Certificate of Release to Service or Permit Maintenance Release.

**a) For Aircraft eligible for:**

- 1 A UK National Permit to Fly must be placed under the responsibility and control of a person authorised in accordance with CAP 553 (BCAR A) Chapter A3-7 or an authorised inspector within an approved organisation such as the Light Aircraft Association (LAA) or British Microlight Aircraft Association (BMAA).
- 2 An EASA permanent Permit to Fly must be placed under the responsibility and control of a person that meets the requirements as described in the approved Flight Conditions.

**b) For Aircraft eligible for a Certificate of Airworthiness**

- 1 ELA1<sup>1</sup> aircraft and non-EASA aircraft up to 5700kg may be placed under the responsibility and control of an appropriately approved licenced engineer, holding the relevant type rating for the aircraft being painted, or;

**NOTE:** For aircraft placed under the responsibility of an authorised person or licenced engineer. The individual must ensure that the paint task is carried out in an appropriate facility/environment. They are responsible for all the work performed, including all related maintenance tasks, all inspections (pre/during/post paint) plus any functional checks, and to issue the release to service on completion.

- 2 Non-complex motor powered aircraft may be placed under the responsibility and control of an appropriately approved maintenance organisation that includes the aircraft type within the scope of their approval.
- 3 A complex motor powered aircraft<sup>2</sup> must be placed under the responsibility and control of an appropriately approved maintenance organisation that includes the aircraft type within the scope of their approval.

**NOTE:** Depending on whether the aircraft is eligible for a National or EASA Certificate of Airworthiness, the choice of maintenance organisation are:

- i) Contract a Part 145 / BCAR A8-23 'A' rated base maintenance organisation, with an in-house paint facility that is approved to work on the specific aircraft type. The organisation must have, appropriate facilities, sufficient competent personnel, tooling/equipment, processes and procedures in place to complete the task, or;
- ii) Contract a Part 145 / BCAR A8-23 'A' rated base maintenance organisation that is approved to work on the specific aircraft type but does not have an in-house paint facility. The contracted maintenance organisation will need to subcontract the paint task to an aircraft paint facility in accordance with approved procedures. The Part 145 / BCAR A8-23 organisation retains responsibility for the all work performed. During the period when the approved organisation is subcontracting work it must extend its quality system to the paint facility, taking responsibility for the facilities, tooling, equipment, data, the competence of all staff involved in and overseeing the painting task, or;

<sup>1</sup> ELA 1 is defined in Commission Regulation (EU) No 1321/2014

<sup>2</sup> Complex Motor Powered Aircraft is defined in Regulation (EU) 2018/1139 and Schedule 1 of the Air Navigation Order 2016. Non complex motor-powered aircraft is to be construed accordingly.

- iii) For non-complex motor powered aircraft contract a Part M Subpart F / BCAR A8-24 approved maintenance organisation, with an in-house paint facility that is approved to work on the specific aircraft type. The organisation must have, appropriate facilities, sufficient competent personnel, tooling/ equipment and processes and procedures in place to complete the task, or;
  - iv) For non-complex motor powered aircraft contract a Part M Subpart F / BCAR A8-24 approved organisation with the aircraft type on its approval but which does not have an in-house paint facility. The organisation may arrange for the task to be carried out by a non-approved organisation subject to appropriate procedures being included in their maintenance organisation manual.
- 3.6 In all cases it is the responsibility of the maintenance organisation to ensure that all work is completed in accordance with the Design Approval Holder's instructions and to issue the Certificate of Release to Service or Permit Maintenance Release, as appropriate on completion of the task. They are also responsible for ensuring that the paint facility meets all the relevant requirements.
- 3.7 Specialist painting organisations are not entitled to issue any certification in respect of the airworthiness status of an aircraft following painting, unless the organisation also holds an appropriate 'A' rated maintenance organisation approval.
- 3.8 Approved maintenance organisations with in-house painting facilities must ensure that the process and procedures for painting aircraft are included in their exposition.

## 4 Additional information

- 4.1 Examples of likely damage and hazards that must be avoided include:
- a) Damage caused during preparation work which could adversely affect the structural integrity of the aircraft, such as:
    - reduction in fastener head size by uncontrolled use of power tools and abrasive media;
    - surface scratching by use of paint scrapers;
    - use of incorrect tools and equipment to remove paint and aerodynamic sealant from lap and butt joints;
    - degrading of composite or plastic surfaces by abuse of particle blasting techniques;
    - aluminium surface contamination by steel wool particles; and
    - use of incorrect chemical paint strippers.
  - b) Damage to transparencies, composites and sealants by solvent and paint removers, due to inadequate protection and/or the retention of these products in crevices.
  - c) Inadvertent deletion of placards and markings, failure to renew them, or failure to comply with the required specification for, e.g. Registration Marks, mandatory door markings and break in zone identification.
  - d) Blockage of vents, drains and other openings by debris, masking tape and residues of paint remover, paint or particle blast material; the possible ingress of water into fuel tanks through vent apertures or past filler cap seals when using high pressure hoses for washing down.
  - e) Loss of correct mass balance moments on flight control surfaces.

- f) Uncontrolled variations to aircraft basic weight.
- g) Variation to surface profile and aerodynamic smoothness at critical points such as surface leading edges, by the uncontrolled use of fillers or excessive paint thickness.
- h) Inadequate knowledge of the manufacturers' finishing schemes for antennas and radomes.
- i) Overly aggressive paint stripping which could damage the sealant around air data ports/orifices on RVSM compliant aircraft (air flow over these areas is critical for the height keeping capability of the aircraft).
- j) For fabric coverings, special procedures which ensure proper adhesion and protection from the effects of ultra-violet light. Aggressive removal of the old finish may cause fabric damage. The exposed fabric should be assessed for its serviceability prior to refinishing. The advice published by the manufacturer of synthetic fabric would have to be made available and complied with in full as well as that of the aircraft manufacturer.
- k) The effects of excessive paint thickness on the application of non-destructive testing techniques using eddy current and ultrasonic methods.
- l) Jamming of flight control and landing gear mechanisms by preparation treatments and paint.

#### 4.2 Examples of finishing work:

- a) Complete repainting from bare metal or fabric, or over coating an existing finish.
- b) Reversion from paint finish to polished metal.
- c) Repainting or reversion to bare metal on flying control surfaces or supercritical lifting surfaces.
- d) Extensive polishing of bare metal finish using abrasive polishes where skin thickness or fastener head dimensions are critical, particularly where polishing is to be a repetitive requirement.
- e) Finishing of radomes, antennas and composite materials used in Primary and Secondary structure.
- f) Painting in areas involving critical orifices or mandatory markings.
- g) Any alteration to the finish of Helicopter main rotor and tail rotor blades or any other critical parts.

**NOTE:** The above list of examples is not intended to be exhaustive.

4.3 Operators and maintenance organisations are reminded that the use of self adhesive decals as an alternative to painting may totally preclude the effective accomplishment of both visual and eddy current inspections. Operators and maintenance organisations need to address the impact on structural inspection tasks when using such decals and ensure that the aircraft maintenance programme requires their removal at the appropriate time.

4.4 It may benefit the owner to anticipate any scheduled structural inspections including Non-Destructive Inspections, which could be better accomplished following the paint removal.

4.5 In all cases, the responsible maintenance organisation or the appropriately approved licenced engineer must have knowledge of painting processes. They must ensure that painting is carried out in the correct environment, (large areas or complete aircraft should only be painted inside a facility) there is adequate control of contaminants, emissions, waste disposal, ambient conditions for curing, humidity controls, and observation of cure times.

## GR No. 11                      **Maintenance of Cockpit and Cabin Combustion Heaters and their associated Exhaust Systems**

(Previously Issued as Airworthiness Notice No. 41, Issue 9, 29 October 2001.)

### **1            Introduction**

1.1        The previous issues of Airworthiness Notice No. 41 referred to investigations of a fatal accident to a large transport aircraft which had revealed that the flight crew may have been suffering from carbon monoxide poisoning brought about by the gas escaping from combustion heaters or their associated exhaust systems.

**NOTE:** Carbon monoxide (CO), a poisonous gas, is a product of incomplete combustion and is found in varying degrees in all smoke and fumes from burning carbonaceous substances. It is colourless, odourless and tasteless.

1.2        Fitment of oversize nozzles to combustion heaters will increase the concentration of carbon monoxide in the exhaust gases and may cause operating difficulties with the heater. Therefore it is imperative that only nozzles of the type quoted by the manufacturer are fitted and that servicing, overhaul and inspection standards of combustion heaters and their associated exhaust systems are maintained at a high level.

1.3        This Generic Requirement accommodates revisions related to ICAO definitions.

### **2            Servicing and Overhaul**

The requirements of this paragraph 2 are applicable to all aircraft whether maintained to an approved Maintenance Schedule or not.

2.1        Except where otherwise agreed by the CAA, servicing, overhaul and inspection of combustion heaters and their associated exhaust systems shall be in accordance with the instructions contained in the appropriate manuals produced by the aircraft manufacturer and the equipment manufacturer. If the instructions in the aircraft manufacturer's manual differ from those in the equipment manufacturer's manual, those of the aircraft manufacturer shall be assumed to be overriding.

2.2        In addition to compliance with the provisions of the approved Maintenance Schedule and appropriate instructions, compliance shall (unless already accomplished in the course of aircraft maintenance) also be shown with a) and b), at intervals not exceeding 500 heater operating hours or two years, whichever is the sooner (but see paragraph 2.3).

a) Combustion heaters and their exhaust systems shall be completely dismantled and inspected, and restored to the extent necessary to ensure continued safe operation. Combustion chambers shall, in addition, be pressure tested.

b) The hot air outlet ducting adjacent to the heater shall be inspected for exhaust contamination and the appropriate action shall be taken where there is any evidence of contamination.

2.3        Unless equipment which records heater operating hours is installed, it must be assumed that heater hours are equal to aircraft flying hours; or some percentage of flying hours that has been agreed with the CAA. Applications for the agreement of a flying hour percentage should be made to the CAA, Safety and Airspace Regulation Group, Gatwick.

### **3 Maintenance Schedule Amendment**

- 3.1 Appropriate amendments must be submitted by all holders of CAA Approved Maintenance Schedules affected by these revised requirements.
- 3.2 Proprietary carbon monoxide detectors are available. Whilst the use of such detectors may be an aid to the detection of carbon monoxide contamination in aircraft, their use is not considered to be a satisfactory substitute for the procedure detailed in this Generic Requirement.

## GR No. 15                      **Light Aircraft Maintenance Schedule (Non-EASA Aircraft – Annex I)**

(Formerly issued as GR No. 15 Light Aircraft Maintenance Schedule, 30 May 2008 and previous to that as Airworthiness Notice No. 63, 23 October 2003)

### 1            **Purpose**

The purpose of this generic requirement is:

- a) to notify stakeholders of the implementation of the continuing applicability of the Light Aircraft Maintenance Schedule (LAMS) to ICAO compliant, Annex I, non-EASA aircraft;
- b) to recognise the continuing approved status of the LAMS at Issue 2;
- c) to notify stakeholders that the CAA approved Light Aircraft Maintenance Programme (LAMP), CAP 766 and CAP 767 were withdrawn from use on 1 September 2016.

### 2            **Non-EASA Aircraft – Annex I**

#### 2.1        **Introduction**

- 2.1.1      The fifth edition of the Light Aircraft Maintenance Schedule was published in April 2005 to account for the implementation of the European Council Regulation (EC) No 1592/2002, now (EU) 2018/1139, and Commission Regulation (EU) No 1321/2014. It also included clarification of cross-references to the ANO, and to avoid ambiguity with previous editions, the fifth edition changed the approval references to CAA/LAMS/A/1999 Issue 2 and CAA/LAMS/H/1999 Issue 2.

#### 2.2        **Grant of Approval**

- 2.2.1      The CAA hereby approves, pursuant to Article 54 of the ANO 2016, the following light aircraft maintenance schedules:
  - a) CAP 411: CAA/LAMS/A/1999 Issue 2 in relation to ICAO-compliant, Annex II, piston engined aeroplanes not exceeding 2730 kg MTOM; and
  - b) CAP 412: CAA/LAMS/H/1999 Issue 2 in relation to ICAO-compliant, Annex II, piston engined helicopters not exceeding 2730 kg MTOM.

This approval came into force on 1 May 2005.

### 3            **Additional Information**

- 3.1        Copies of the LAMS may be purchased from TSO at [www.tsoshop.co.uk/](http://www.tsoshop.co.uk/) or downloaded from the CAA website at [www.caa.co.uk/publications](http://www.caa.co.uk/publications).
- 3.2        Alternative maintenance schedules to the LAMS will continue to be approved in accordance with British Civil Airworthiness Requirements Chapter A6-1 for non-EASA aircraft. Reference should be made to CAP 562 (CAAIP) Leaflet 5-30.

**NOTE:** All references to legislation are to legislation **as amended**.

**NOTE:** References in CAP 411 and 412 to Annex II Non-EASA aircraft are to Annex I non-EASA aircraft in Regulation (EU) 2018/1139.

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## GR No. 16 Tyre Bursts In Flight – Inflation Media

(Previously Issued as Airworthiness Notice No. 70, Issue 2, 16 September 1988.)

### 1 Applicability

This Generic Requirement is applicable to all UK registered aeroplanes with a Maximum Take-off Weight Authorised (MTWA) exceeding 5700 kg, with retractable landing gear.

**NOTE:** For American registered aeroplanes the FAA have published Airworthiness Directive 87-08-09, which requires that not more than 5% Oxygen by volume is contained in tyres inflated and mounted on braked wheels of particular aeroplane types.

### 2 Introduction

- 2.1 JAR 25.729(f), BCAR Chapter D4-5 paragraph 1.2 and TSS Standard 5-6 paragraph 9, require equipment to be protected from the effects of tyre burst. In addition the CAA requires the operational hazards due to tyre bursting in flight be minimised.
- 2.2 The majority of in-flight tyre bursts have been attributed to the tyre carcass being weakened by foreign object damage, scuffing, etc., such that a rapid release of pressure takes place. Such failures are usually experienced when the gear has been retracted for some time and the effects of brake heat transfer, internal tyre temperature and differential pressure are combined.
- 2.3 A fatal accident involving cabin decompression and fire has highlighted another mode of tyre failure in flight where a tyre may fail explosively without any significant prior degradation. A tyre inflated with air and subjected to excessive heating, possibly caused by a dragging brake, can experience a chemical reaction resulting in release of volatile gases. Such a chemical reaction in the presence of the oxygen in the contained air may result in a tyre explosion in a landing gear bay and/or an in-flight fire since it appears that the protection normally afforded by conventional pressure relief devices in the wheel would be incapable of responding adequately to the rapid increases in temperature and gas pressure associated with auto-ignition.
- 2.4 Laboratory material and tyre burst testing indicates that the risk of auto-ignition can be reduced by using an inert gas for tyre inflation and servicing.
- 2.5 Other potential benefits may accrue from the use of Nitrogen as it will tend to reduce wheel corrosion, tyre fatigue and the risk of fire when fusible plugs melt due to brake overheating.

### 3 Compliance

- 3.1 With effect from 1 April 1988, all braked wheels of retractable landing gear units on aeroplanes defined in paragraph 1 will be required to have tyres inflated with Nitrogen, or other suitable inert gas, and maintained such as to limit the Oxygen content of the compressed gases to not greater than 5% by volume.
- 3.2 To ensure compliance with this requirement suitable inflation and servicing procedures must be adopted in consultation with the airframe constructor. At airfields where suitable inert gases are not normally available it is acceptable to use air for inflation or servicing provided that a suitable entry is made in the Technical Log and that the tyre is re-inflated or serviced in accordance with the agreed procedure at the earliest opportunity or within 25 flight hours, whichever is the sooner.

#### **4 Additional Information**

In addition to compliance with the requirement of paragraph 3 above, tyre and wheel assemblies should be maintained such that greases, solvents, powders and rubber dust are excluded as far as practicable from within the inflation volume.

## **GR No. 17                    Maintenance Requirements for Variable Pitch Propellers Installed on Aircraft Holding a UK Certificate of Airworthiness**

(Previously Issued as Airworthiness Notice No. 75, Issue 11, 2 April 2004.)

### **1            Introduction**

- 1.1        Following the introduction of Part M Light (Part-ML) under Regulation (EU) 2019/1383, which became applicable on 24 March 2020, this GR does not apply to EASA aircraft types.
- 1.2        For most propeller types the propeller manufacturer will publish their recommended overhaul periods and any necessary overhaul / inspection instructions. The operator should observe these recommendations at the periods specified by the manufacturer unless an alternative is agreed by CAA and stated in the Approved Maintenance Programme. However, there are a number of propeller types for which the manufacturer has not published overhaul lives in terms of hours or calendar period. The purpose of this Generic Requirement is to prescribe mandatory action to ensure that these propellers are maintained in a satisfactory condition, by requiring periodic inspection.

### **2            Applicability**

The requirements of this Generic Requirement are applicable to variable pitch propellers, variable pitch propellers which have been locked and to ground adjustable propellers. For modular propellers the calendar periods referred to in this Generic Requirement shall apply to propeller hubs and blades individually.

### **3            Compliance**

- 3.1        Any overriding mandatory requirements in respect of particular propellers issued either by the Airworthiness Authority of the country of design of a propeller, the European Aviation Safety Agency (EASA) or by the CAA, will take precedence over this Generic Requirement. For the purposes of compliance with an AD which specifies requirements as a function of overhaul, the bare blade inspection required by paragraph 4.2.2 shall be deemed as an overhaul.

#### **3.2           Propellers with no manufacturer recommended calendar overhaul limitation**

- 3.2.1      For propellers where no calendar overhaul interval is recommended by the Manufacturer paragraphs 3.2.1 a) and 3.2.1 b) must be complied with;
  - a)        At 3 years since new or overhaul or the inspection defined in paragraph 4.2.2 of this Generic Requirement, complete the hub/blade inspection specified in paragraph 4.2.1.
  - b)        At 6 years since new or overhaul or the inspection defined in paragraph 4.2.2 of this Generic Requirement, overhaul the propeller in accordance with the manufacturer's instructions.
- 3.2.2      On reaching the manufacturer's recommended flight hour TBO period the propeller must be overhauled.
- 3.2.3      For propellers with composite blades, in the absence of any manufacturer's overhaul periods in terms of calendar time, the composite blades should be subject to overhaul

at a period not exceeding 6 years in accordance with the manufacturer's instructions. The 3 year inspection of paragraph 4.2.1 need not be carried out.

### **3.3 Propellers with a manufacturer recommended calendar overhaul limitation**

- 3.3.1 Propellers which are currently maintained in accordance with paragraphs 4.2.1 (3 year inspection) and 4.2.2 (6 year bare blade inspection) of this Generic Requirement, may remain in service until the next scheduled inspection, in accordance with this Generic Requirement, at which point the following will apply;
- a) At 3 years since inspection defined in paragraph 4.2.2 of this Generic Requirement, the propeller must either be overhauled in accordance with the manufacturer's instructions, or inspected in accordance with paragraph 4.2.1. of this Generic Requirement.
  - b) On reaching 6 years since inspection defined in paragraph 4.2.2 of this Generic Requirement, the propeller must be overhauled in accordance with the manufacturer's instructions. After this time the propeller shall continue to be overhauled in accordance with the manufacturer's instructions at the manufacturer's recommended period unless varied by the Approved Maintenance Programme.
- 3.4 The periods of operation or elapsed calendar time prescribed in the appendix to this Generic Requirement shall be calculated from the date of the initial installation of the propeller on an aircraft following manufacture or complete overhaul of the propeller and may be preceded by a period of storage of up to 2 years which has been carried out in accordance with the manufacturer's recommendations. Periods of storage in excess of 2 years or subsequent to the initial installation shall be counted as if the propeller were installed. Where the specific manufacturer has provided information on this topic within their instructions then this should be followed.
- 3.5 The applicability and compliance requirements of this Generic Requirement are summarised in Tables 1 and 2 of the Appendix to this Generic Requirement.

## **4 Propeller Inspections**

- 4.1 The inspection of propellers required by Tables 1 or 2 shall be undertaken by an organisation approved by the CAA for the purpose.
- 4.2 The inspections and re-work shall be carried out in accordance with the manufacturer's instructions and as a minimum shall include:
- 4.2.1 Hub/blade inspection.
- a) Dismantling of the propeller sufficiently to gain access to the blade root bearing assemblies.
  - b) Thorough cleaning of the blade root assemblies in accordance with the manufacturer's instructions.
  - c) Examination for pitting, fretting, corrosion, cracking and other damage of the hub, bearings, blade roots, and housing, together with replacement of any disturbed seals. All of the blade surfaces shall be examined for damage, delamination (where applicable), and the presence of corrosion, removing the paint finish as necessary. In cases where de-icer boots or overshoes are installed on the blades, a detailed examination for corrosion around their edges shall be carried out, and, if any evidence is found, the boots/overshoes shall be removed to permit a full inspection of the masked areas. Any corrosion shall be removed and the blades re-protected. In cases where de-icer boots/overshoes are removed, replacement parts shall be installed

using the facilities prescribed and under conditions and procedures specified, in the relevant manufacturer's Overhaul Manual.

- d) Non Destructive Inspection of the hub and blade roots shall be carried out in accordance with the manufacturer's instructions except where it can be verified that Non Destructive Inspection of the hub and blade roots has been carried out in accordance with the manufacturer's instructions within the last 4 years.
- e) Checking the track of the propeller after refitting, then functioning throughout its operational range by means of an engine run to verify correct performance, and to establish that any vibration is within acceptance limits, in accordance with the manufacturer's instructions.

#### **4.2.2 Bare blade inspection.**

In addition to the hub/blade inspection ref. 4.2.1;

- a) Removal of all de-icing boots or overshoes and fairings.
- b) Removal of all paint and erosion protection.
- c) Removal of all blade root bushings and plugs.
- d) Inspection of the complete blade surface for the presence of corrosion. Any corrosion shall be removed and the blades re-protected and prepared for the re-installation of the blade fittings.
- e) All NDI required for overhaul of the propeller shall be carried out in accordance with the manufacturer's instructions.
- f) Full dimensional inspection of all blades.

## **5 Record of Accomplishment**

A comprehensive record of the inspection and work done in accordance with paragraph 4 of this Generic Requirement shall be retained and an entry, making a reference to this record, shall be inserted in the Propeller Log Book.

## Appendix 1 to GR No. 17

(Previously Issued as Airworthiness Notice No.75 Appendix 1, Issue 3, 2 April 2004.)

Propellers shall be maintained in accordance with (a) of the appropriate following Table, unless no calendar overhaul period is published by the propeller manufacturer. In this case they shall be maintained in accordance with (b):

**Table 1: Propellers fitted to Aircraft with MTOM of 5700 kg or above**

(a)	Overhaul period	Whichever occurs first of operating hours or calendar period as published by the propeller manufacturer unless varied by the Approved Maintenance Programme.
(b)	Overhaul period	Operating hours as published by the propeller manufacturer or on condition where no life has been published subject to (i) and (ii) below.
	(i) Hub/ blade inspection period	Inspect at 3 years since new or overhaul or period inspection (ii) below; repeat at 1 year intervals.
	(ii) Bare blade inspection period	Not to exceed 6 years since new, overhaul or last bare blade inspection.

**Table 2: Propellers fitted to Aircraft with MTOM below 5700 kg**

(a)	Overhaul period	Whichever occurs first of operating hours or calendar period as published by the propeller manufacturer unless varied by the Approved Maintenance Programme.
(b)	Overhaul period	Operating hours as published by the propeller manufacturer or on condition where no calendar life has been published subject to (i) and (ii) below.
	(i) Hub/ blade inspection period	Inspect at 3 years since new or overhaul or inspection (ii) below (but may be phased to next annual check or Certificate of Airworthiness Renewal provided period does not exceed 4 years).
	(ii) Bare blade inspection period	Not to exceed 6 years since new, overhaul or last bare blade inspection.

NOTE: Hub/blade inspections and bare blade inspections are to be in accordance with the procedures of paragraph 4 of this GR.

## GR No. 18            **Electrical Power Supplies for Aircraft Radio Systems**

(Previously Issued as Airworthiness Notice No. 76, Issue 4, 29 October 2001.)

### **1            Introduction**

- 1.1        Previous Issues of Airworthiness Notice No. 76 (now GR No. 18) drew attention to the dangers of operation of aircraft in which the entire radio installation was supplied via a single electrical feeder circuit, and stated that Certificates of Airworthiness would not be issued or renewed in respect of aircraft certificated in the Transport Category with such systems.
- 1.2        Issue 4 of Airworthiness Notice No. 76 took account of the withdrawal of the General Purpose Category Certificate of Airworthiness and, following consultation with industry, extended the applicability of the Requirements to include multi-engine aircraft in any Category. Interpretative material has been added to give guidance on the extent of the assessment to be made. At first issue, this Generic Requirement reproduces Airworthiness Notice No. 76 at Issue 4 with changes made necessary by the implementation of EU legislation.
- 1.3        It is not intended that aircraft, for which compliance with the requirements of paragraph 2 of previous Issues of Airworthiness Notice No. 76 has been established, should be re-examined.

### **2            Requirement**

The electrical feeder arrangements shall be such that:

- a) Where more than one radio system is installed, no likely single failure (e.g. a fuse or a relay) will result in the loss of all radio systems.

**NOTE:** It is strongly recommended that such a failure should only result in the loss of one radio system.

- b) Where duplicate radio systems, or radio systems which can duplicate a function, are installed, no likely single failure (e.g. a fuse or a relay) will result in the loss of both systems.

### **3            Interpretation**

In examining electrical feeder arrangements to establish compliance with paragraph 2, the examination for likely single failures should include:

- a) the mechanical and electrical aspects of the supply circuit, including the return path of the electrical supply;
- b) the location within the electrical circuit of fuses, circuit breakers and power switching relays, their physical location in the aircraft and the manner in which they are interconnected; and
- c) panels for integrated control of radio systems, audio integration systems, and dimmer control equipment for electronic displays.

## **4 Implementation**

- 4.1 Aircraft used for the purposes of public transport of passengers or cargo must comply with the requirements of paragraph 2.
- 4.2 Multi-engined aircraft used for any purpose must comply with the requirements of paragraph 2.
- 4.3 The CAA will consider applications for a waiver to this Generic Requirement in respect of multi-engined aircraft that is not used for the purposes of public transport, when it can be satisfied that the aircraft is fitted with such limited radio equipment, or is restricted to operations under such limited conditions, that the loss of the electrical supply to all radio equipment would not significantly affect the safety of the aircraft during its permitted normal operation.

## **5 Recommendation**

It is strongly recommended that all single-engined aircraft (in addition to those for which compliance is required) should comply with the requirements of this Generic Requirement.



## **GR No. 19 Emergency Power Supply for Electrically Operated Gyroscopic Bank and Pitch Indicators (Artificial Horizons)**

(Previously Issued as Airworthiness Notice No. 81, Issue 2, 4 April 1997.)

### **1 Introduction**

- 1.1 Studies of those aircraft accidents and incidents in recent years which have involved total loss, or interruption, of generated electrical supplies on public transport aircraft, indicate that a major factor in the ability of the crew to maintain safe flight is the continuation of presentation to the pilot of reliable aircraft attitude information. Two fatal accidents since 1968 have been attributed to failure of power supplies resulting in the loss of horizon information for flight in blind conditions. Incidents have also occurred which could have been catastrophic if the crew had been totally dependent on horizon instrument, rather than visual, information.
- 1.2 All public transport aircraft operated on the United Kingdom Register the safety of which depends on electrical services, are equipped with some form of standby or emergency electrical power supply. On many aircraft these emergency supplies are provided by batteries of sufficient capacity to maintain essential services for a flight time sufficient to reach an airfield and make a landing. However, on a number of aircraft types the adequacy and duration of these supplies is critically dependent on crew response time in recognising the emergency, and in completing particular drills to isolate the battery supply to prevent it being discharged into loads on the main electrical system. It is considered that the ability of the crew to cope with a major interruption of electrical supplies would be improved if they had knowledge that continuity of horizon information was not totally dependent on their prompt and correct execution of emergency drills.
- 1.3 The purpose of this Generic Requirement is to require the retrospective modification of certain classes of aircraft to ensure that continuity of horizon information is maintained.
- 1.4 Aircraft types fitted with air driven gyroscopic bank and pitch indicators are exempt from the requirements of this Generic Requirement.

### **2 Requirement**

- 2.1 Compliance with paragraphs 2.2 and 2.3 of this Generic Requirement, or with an approved alternative providing an equivalent level of safety, is required as soon as practical but not later than 1st January 1974, for:
  - a) aircraft operated for the purposes of public transport and certificated for the carriage of more than 19 persons over the age of three years; and
  - b) aircraft the maximum authorised weight of which exceeds 15,900 kg.
- 2.1.1 Where it can be shown that an aircraft detailed in 2.1 a) or b) will be permanently removed from service prior to the 1st January 1975, the CAA may, on application, waive the requirements of this Generic Requirement where it is satisfied that compliance would not be justified in the circumstances of the particular case.
- 2.1.2 Compliance will also be required for newly constructed aircraft the maximum authorised weight of which exceeds 5700 kg, for which a UK Certificate of Airworthiness is first issued on or after 1st January 1974, where such an aircraft is operated for the purposes of public transport.

- 2.2 Where it cannot be shown that in the event of a total failure of the main electrical generating system, an adequate supply will be available automatically to a suitable bank and pitch indicator for a minimum period of 30 minutes, assuming that no special crew action is taken for 10 minutes, then a separate emergency supply, independent of the aircraft electrical generating system, which will automatically supply such an instrument, and its associated lighting, for a minimum period of 30 minutes, shall be provided.
- 2.2.1 Where the emergency supply is provided by a separate battery it is permissible for this battery to be (trickle) charged from the main electrical generating system, provided that the installation is such that the battery cannot discharge back into the main system.
- 2.3 The instrument supplied in accordance with paragraph 2.2 shall be
- a) the third instrument (standby horizon) where this is provided, or failing such provision,
  - b) the bank and pitch indicator fitted to the Captain's flight instrument panel.
- 2.3.1 Where the third instrument is fitted it shall:
- a) Operate independently of any other attitude indicating system.
  - b) Be so located on the instrument panel that it will be visible to, and usable by, both pilots from their normal positions.
  - c) Be compatible in presentation with the main attitude indicating system.
  - d) Be fitted with a failure warning device.
- Alternatively a means of indicating that the power supply to the instrument is operating correctly shall be provided.
- 2.3.2 Where the instrument on the Captain's flight instrument panel is utilised:
- a) The circuitry to the instrument shall be modified, as necessary, so that transfer to the emergency source of supply is automatically effected in the event of failure of the main supply.
  - b) The requirements of paragraph 2.3.1d) shall be met.

### **3 Additional Information**

- 3.1 Representations have been made to CAA that under conditions of widespread adverse weather, or heavy traffic density at airports, a period of 30 minutes may be a less than desirable time for flight to a suitable airfield and landing, and clearly this period by itself is inadequate for long range aircraft.
- 3.1.1 The basis of UK certification of all long range, and of certain short/medium range, aircraft types is that after a period of interruption of electrical supplies it will be possible for the crew to re-establish sufficient normal, or emergency, generated power to support all necessary essential services, including the instrument covered by this Generic Requirement, for the remainder of the flight. The prescribed period of 30 minutes is considered to be adequate to allow for appropriate crew action for this class of aircraft.
- 3.1.2 For those shorter range aircraft that are totally dependent on battery power to support all essential services to the completion of the flight, a period of 30 minutes assuming a crew delay time of 10 minutes, is the mandatory minimum endurance of the emergency supply for the horizon instrument prescribed in this Generic Requirement. It is, however, strongly recommended that in circumstances where the crew do take prompt and correct actions in response to warning indications of the interruption of all generated electrical power, the aircraft installation should include adequate battery capacity to

provide a 60 minute supply for both the subject instrument and the other services essential to complete the flight and make a landing.

- 3.2 A number of aircraft types already comply with the requirements of this Generic Requirement, or incorporate other special features which have been considered and accepted by the CAA as providing an equivalent level of safety.
- 3.3 In the case of aircraft types, of UK construction, which do not comply, discussions have been held with the Aircraft Constructors. Owners and Operators of such aircraft are, therefore, recommended to contact the Constructor concerned for information regarding suitable modifications.

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## GR No. 23 Personnel Certification for Non-Destructive Testing of Aircraft, Engines, Components and Materials

### 1 General

- 1.1 This Generic Requirement advises the CAA's requirements for the training and qualification of Non-Destructive Testing (NDT) personnel involved in the manufacture and maintenance of aircraft or aircraft components, which shall be in accordance with the European Standard EN4179 (Notes 1 and 2) and the Approved Organisation's written practice/procedures for the authorisation of NDT personnel.
- 1.2 All examinations shall be conducted by personnel or organisations under the general control of the UK National Aerospace NDT Board (UK NANDTB). Subject to prior notification and with the agreement of the UK CAA, the UK NANDTB may delegate all or part of its responsibility for general control to another UK Nationally Accredited Body.
- 1.3 The term NDT is used throughout this Generic Requirement to include, but not be limited to; all the common methods identified in EN4179 and shall also be applicable to all other NDT methods used by Approved Organisations.
- 1.4 Non Destructive Inspection (NDI) as defined by Part-145, as opposed to EN4179, is not considered by the CAA as NDT and whilst relevant personnel engaged in NDI require appropriate training, they do not require qualification in accordance with EN4179. The UK NANDTB has published policy on the applicable training and qualification required for NDI and NDT methods and techniques ref: NANDTB 18.
- 1.5 The UK NANDTB recognises the PCN/AERO scheme as satisfying the qualification requirements of EN4179 for personnel subject to EC regulation 2042/2003. Personnel holding PCN/AERO certification may be issued an EN4179 authorisation by the organisation subject to any additional formal specific training and examination as determined by the Nominated Level 3 person (see paragraph 4). Additional specific training and examinations shall also be conducted under the control of the UK NANDTB or delegated body. This clause may also be applied to approved maintenance organisations who are also Part 21 approved when agreed by the CAA.
- 1.6 All training and examinations that extend the scope of an individual's authorisation must be conducted under the control of the UK NANDTB or delegated body. Additional training associated with new equipment, new product lines, new operating practices etc. are considered to be on the job training and does not fall under the UK NANDTB remit.

**NOTES:** 1) EN4179 (Aerospace Series – Qualification and Approval of Personnel for Non-Destructive Testing).

2) All references to Standards within this Requirement are to be taken as referring to the latest issue and are available from the British Standards Institute, 389 Chiswick High Road, London. W4 4AL.

## 2 Definitions

**Aerospace Sector:** A particular section of industry or technology where specialised NDT practices are used requiring specific aerospace product related knowledge, skill, equipment or training.

**Authorisation (of NDT personnel/Personnel Approval):** The authority of persons to perform NDT on behalf of an employer based on a written statement issued by the Approved Organisation on the recommendation of the Nominated Level 3 attesting to the individual's competence as specified within the certificate.

**Authorisation (of Certifying Staff):** The authority of NDT personnel to certify the completion of tasks in accordance with approved data using an EASA Form 1, issued with a certifying staff authorisation by the Approved Organisation (see Part 145.A.35 and Part M.A.607). All EASA certifying staff shall be included in the list of certifying staff contained in the in the Exposition, or cross referenced to a recognised register/database for certifying staff, with sample signatures/stamp number.

**Authorisation (of NDT procedures):** The act of signifying approval of NDT procedures by a Level 3 authorised in the method.

**National Aerospace NDT Board (NANDTB):** An independent organisation representing a nation's aerospace industry chartered by the participating prime organisations and recognised by the national regulatory authorities to provide or support NDT qualification services and examinations in accordance with EN4179.

**NDT Instruction:** A written description of the precise steps to be followed in testing to an established standard, code, specification or NDT procedure.

**NDT Method:** One of the disciplines of non-destructive testing (e.g. ultrasonic, radiography, etc.) within which different techniques may exist.

**NDT Procedure:** A written description of all essential parameters and precautions to be observed when applying an NDT technique to a specific test, following an established standard, code or specification.

**NDT Technique:** A category within an NDT method (e.g. ultrasonic immersion or ultrasonic contact testing, etc.). The employer or UK NANDTB may define specific techniques within a method.

**Qualification:** The proven ability of NDT personnel to meet the requirements of a given specification in terms of physical requirements, training, knowledge and experience necessary to perform the applicable NDT method.

**Qualification Examination:** An examination administered by an independent examination body, or by a body authorised within the employer's EN4179 compliant written practice, which demonstrates the general, specific and practical knowledge of the candidate.

**Type Certificate:** For the purposes of this Generic Requirement, Type Certificate includes Type Certificates, Supplementary Type Certificates, European Parts Approval (EPA) Authorisations or European Technical Standard Orders (ETSO) Authorisations.

**Written Practice:** The procedure that describes an employer's requirements and methodology for controlling and administering the NDT personnel qualification and authorisation/approval process.

### 3 Procedures for the Qualification of NDT Personnel

- 3.1 All Approved Organisations involved in any aspect of NDT shall develop and maintain procedures for the qualification and authorisation of their NDT personnel in accordance with EN4179. The Organisation's procedures and written practice as defined by EN4179 shall be approved by the Nominated Level 3. The procedures/written practice may be published as a separate document and shall be cross-referenced in the appropriate Exposition.
- 3.2 Training and examination of all NDT personnel working in UK based Organisations shall be under the control of the UK NANDTB or delegated body.
- 3.3 NDT Personnel Certification does not relieve an Organisation of its responsibility to authorise staff to perform and certify work. Such Authorisations are to be granted in accordance with the Organisation's Quality Procedures and be subject to audit.
- 3.4 In all cases the Organisation's procedures for the training, examination and certification of NDT personnel should be subject to independent audit and review.
- 3.5 Organisations responsible for administration of NDT personnel training and/or examination, shall be subject to audit by the UK NANDTB or delegated body agreed by the CAA.

### 4 Nominated Level 3 Personnel

- 4.1 Approved Part 145, Part M Subpart F and Part 21 organisations shall nominate in writing using an EASA Form 4 and BCAR organisations using an AD458, supported with evidence of independent qualification, an individual who is responsible to the Accountable Manager, for the technical supervision of NDT. This individual must hold NDT qualification at NDT Level 3 in the Aerospace Sector and will be referred to as the Nominated Level 3. This position shall be identified within the Organisation's Exposition, and any change in this position advised to the CAA.
- 4.2 The CAA recognises the following independent qualifications as appropriate for the position of Nominated Level 3:
- EN4179 Level 3 as administered by a BINDT accredited Outside Agency
  - PCN/AERO Level 3
  - ASNT Level 3
- Nominated personnel must also demonstrate evidence of specific knowledge and experience appropriate to the Organisation's scope of work.
- 4.3 Where the Nominated Level 3 is not qualified in all NDT methods used by the Organisation, then additional personnel necessary to provide coverage shall be named in the exposition or quality manual and shall hold NDT Level 3 certification issued under those schemes detailed in paragraph 4.2.
- 4.4 The CAA may accept person's external to the Organisation as the Nominated Level 3 provided:
- a) A written agreement exists between the individual and the Organisation setting out the individual's responsibilities within the Organisation including those specified in paragraph 4.6.

- b) An agreement is in place to ensure the external Level 3 commits sufficient time and on site presence to discharge their responsibilities for the technical supervision of NDT.

**NOTES:** 1) Where an individual is employed by another organisation, the agreement should include the consent of the external organisation contracting out the services of the particular Level 3 person.

2) A contracted-in Nominated Level 3 shall visit the organisation as a minimum once per 12 months. Additional visits may be required depending on the size, complexity, stability of the organisation and the scope of NDT activities carried out.

4.5 As a nominated individual, the Nominated Level 3 must be provided with the necessary co-operation (access to facilities, company procedures, training records, audits and inspection reports etc) to allow that person to carry out their function under the Approval.

4.6 The Terms of Reference for the Nominated Level 3 to discharge his/her responsibilities shall include:

- a) Identify any additional NDT qualified Level 3 personnel necessary for coverage when the Nominated Level 3 is not qualified in all NDT methods used by the Organisation;
- b) Identify any additional Level 3 personnel necessary to provide adequate day-to-day coverage depending on the size/facilities of the Organisation;
- c) Approve the Organisation's NDT procedures;
- d) Approve the Organisation's written practice for the training and qualification of NDT personnel in accordance with EN4179 and this Generic Requirement;
- e) Review the Organisation's written practice every 12 months to ensure that any changes in the regulations, applicable standards and the Organisation itself are reflected;
- f) Ensure that NDT procedures are reviewed every 12 months;
- g) Ensure that technical audits (both system and product) are carried out or supported by appropriately qualified personnel every 12 months.

## 5 Inspections and Certification of Inspections

5.1 NDT inspections shall be carried out by personnel approved in accordance with the Organisation's written practice and procedures. Where NDT procedures and part specific instructions are specified by the organisation responsible for the design and/or manufacture of the aircraft, material, structure or component, then these shall be used except where change is permitted and authorised as defined in paragraph 6 of this Generic Requirement.

5.2 Where non-mandatory inspections are to be undertaken, for which the responsible design/manufacturing organisation has not specified part specific NDT procedures, then the NDT method, technique, procedure and instruction shall be prepared in accordance with paragraph 6 of this Requirement and approved by a Level 3 holder qualified in the applicable method.

5.3 Normally, certification of inspections will be made by authorised persons who hold NDT Level 2 or Level 3 NDT qualification. Inspections may also be certified by authorised personnel who hold NDT Level 2 Limited qualification as defined by the UK NANDTB per NANDTB 17. However, where an inspection task is determined by the Nominated



Level 3 to have clearly defined acceptability and rejection criteria requiring no interpretation, then the task may be certified by an authorised NDT Level 1 as detailed within the written practice.

- 5.4 Where a Level 3 is required to carry out and certify an NDT inspection they shall either hold a current Level 2 NDT qualification in the relevant method(s), or alternatively be able to provide evidence that they have successfully completed an appropriate Level 2 practical examination and have maintained continuity in the application of practical testing as defined by EN4179 and detailed in the written practice before the issuance of an authorisation.
- 5.5 The term certification as defined by EN4179 is used to denote 'operating authorisation/approval' and does not automatically permit an individual who meets the requirements of EN4179 to certify an EASA Form 1. An organisation must authorise a suitably qualified person before that person can certify NDT inspections.

## **6 NDT Techniques and Instructions and their Approval**

- 6.1 NDT techniques, procedures and instructions, published and specified by the applicable Design Approval Holder in NDT Manuals, Service Bulletins and approved Repair Drawings etc. constitute airworthiness data.
- 6.2 Where the continued airworthiness data published by the Design Approval Holder permits changes (e.g. selection of equipment model, probe type etc.) then such changes must be authorised in writing by a Level 3 qualified in the appropriate method.
- 6.3 Any other change to the Design Approval Holder's airworthiness data requires the written agreement of the Design Approval Holder responsible for the design of the product/structure before such a change is implemented.
- 6.4 NDT Instructions prepared by a NDT Level 2 shall be approved by a NDT Level 3 qualified in the applicable method. Co-ordination between the NDT Level 3 and responsible Design Approval Holder must be maintained to ensure that the selected NDT inspection provides an appropriate level of defect sensitivity and probability of detection to the intended application.
- 6.5 The procedure for the control of all NDT techniques, procedures and instructions, including their preparation and authorisation shall be detailed in the Organisation's Exposition.

## **7 Suppliers and Sub-Contractors**

- 7.1 For a Part 145 Organisation performing maintenance on any aircraft or component for which it is approved, where NDT inspections are required, they may on occasions be granted the privilege within their scope of work to utilise sub-contractors working under the quality system of the Part 145 Organisation. Where sub-contracting includes NDT processes, the Exposition and Quality Management System shall define how the Organisation ensures that the training and authorisation of the sub-contractors NDT personnel is controlled in accordance with this Generic Requirement and how it satisfies the requirements of Part 145.A.30(f). (See Part 145.A.75(b) and the associated AMC and guidance material.)

- 7.2 Design and Production Organisations utilising suppliers and sub-contractors where NDT processes are employed shall detail within their Quality Management System how the Approved Organisation ensures that training and authorisation of NDT personnel in suppliers and sub-contractors is controlled in accordance with this Generic Requirement. Organisations should refer to Part 21 Subpart G and applicable BCAR A8 requirements regarding the surveillance of sub-contractors.

## **8 National Aerospace NDT Board**

- 8.1 The UK NANDTB is responsible for the general control of training and examinations applicable to UK NDT personnel.
- 8.2 The UK NANDTB policies and procedures can be found on the following website:  
<http://www.bindt.org/NANDTB/NANDTB.html>.

## **9 Recognition of Approvals**

- 9.1 Training and/or examination organisations under the control of a NANDTB, that comply with EN4179, ANDTBF/08 who are a member of the Aerospace NDT Board Forum (ANDTBF) may be recognised by the UK NANDTB.
- 9.2 The ANDTBF policies and procedure can be found on the following website:  
<http://www.efndt.org/Services/Document-Store>.

## GR No. 24                      Light Aircraft Piston Engine Overhaul Periods

1            Article 54 of the Air Navigation Order 2016 (as amended) requires that aircraft registered in the United Kingdom, for which a Certificate of Airworthiness (C of A) is in force, are maintained in accordance with an approved Maintenance Programme. The instructions for continuing airworthiness requirements relating to overhaul of light aircraft piston engines are normally defined as the engine manufacturers' recommended overhaul periods, where these have been promulgated under a system approved by the airworthiness authority responsible for the engine. CAA policy in respect of extensions to the recommended overhaul periods (operating time and calendar time) for piston engines used in light aircraft is set out in this Generic Requirement (GR).

- NOTE:**
- a) 'Light aircraft piston engine' in this context means either:
    - i) a piston engine installed in an aircraft, the Maximum Take Off Weight of which does not exceed 2730 kg; or
    - ii) a piston engine of 400 hp (298 kW) or less.
  - b) For the purpose of this GR 'engine' is as defined in the EASA's publication "CS-Definitions" and includes the components and equipment necessary for satisfactory functioning and control. The propeller and its associated equipment are excluded except for those components that are part of the engine type design.
  - c) For the purpose of this GR, the definitions of 'Public Transport', and 'Commercial Operation' shall be those of the Air Navigation Order 2016 (as amended).
  - d) Following the introduction of Part M Light (Part-ML) under Regulation (EU) 2019/1383, which became applicable on 24 March 2020, this GR does not apply to EASA aircraft types.

2            It is emphasised that the CAA has taken the decision to allow extension of recommended overhaul periods as defined in 3.1.1 and 3.1.2 on the basis of the effect on airworthiness only. The economics of operation is not the responsibility of the CAA, although this may have been considered by the manufacturer in establishing the recommended overhaul periods. Aircraft Owners/Operators must make their own decisions on these other aspects. Unless satisfied that the engine remains in an airworthy condition, the Owner/Operator should have the engine overhauled.

3            Continuation in service shall be subject to compliance with paragraph 3.1, as qualified by paragraphs 3.1.1 to 3.1.2, as appropriate.

3.1          Unless otherwise stated, engines may be operated to the overhaul periods which have been recommended by the manufacturer and promulgated under a system approved by the airworthiness authority responsible for the engine. All such recommendations, whether stated in terms of operating time or calendar time, constitute a recommended overhaul period for the purposes of this GR, including recommendations by the manufacturer for reduced overhaul periods with particular types of operation or particular service bulletin/modification configurations.

- 3.1.1 Under the provisions of this Generic Requirement (GR), engines that have reached the operating time or calendar time limitation of a recommended overhaul period may continue in service for a further period of operation not exceeding 20% of the recommended operating time or calendar time, whichever occurs first, subject to compliance with a), b), c), d) e) and f).
- a) Compliance being shown with the appropriate limitations specified in Appendix 1 paragraph 5, to this GR.
  - b) Compliance being shown with any applicable Airworthiness Directive (AD) which requires compliance at engine overhaul, unless otherwise agreed by CAA.
  - c) The engine must have been installed and operated in a UK-registered aircraft, or in an aircraft whilst previously registered in an EASA Member State for a period of 200 hours immediately prior to completion of the engine manufacturer's recommended overhaul period expressed in hours, and 12 months prior to completion of the manufacturer's overhaul period expressed in terms of calendar time. For engines on aircraft transferring to the UK from operation on an EASA Member State's register, where an engine manufacturer's recommended overhaul limit has already been exceeded, shall be subject to further assessment to determine GR 24 eligibility. Under such circumstances, engines will only qualify under this requirement where it can be demonstrated that the previous continued in service operation was in accordance with maintenance programme instructions issued by the Competent Authority of the exporting Member State.
  - d) For engines on aircraft transferring to the UK from operation on an EASA Member State's register, where an engine manufacturer's recommended overhaul limit has already been exceeded, shall be subject to further assessment to determine GR No.24 eligibility. Under such circumstances, engines will only qualify under this requirement where it can be demonstrated that the previous continued in service operation was in accordance with maintenance programme instructions issued by the Competent Authority of the exporting EASA Member State.
  - e) The engine being inspected in accordance with paragraph 4 in order to assess its condition immediately prior to the increase, and subsequently at 100 hour or yearly intervals, whichever occurs first.
  - f) The data obtained during the inspections of paragraph 4 being entered in the engine log book.
- 3.1.2 Engines that have complied with paragraphs 3.1 and 3.1.1, and have completed 120% of the recommended operating time or calendar time, whichever occurs first, may continue in service indefinitely, subject to compliance with a), b), c) and d).
- a) The engine being installed in an aircraft which is not used for the purposes of Public Transport or Commercial Operation (with the exception of aircraft utilised for the purposes of towing gliders/sailplanes which are owned, or operated under arrangements entered into, by a club affiliated to the British Gliding Association).
  - b) Compliance being shown with the appropriate limitations specified in Appendix 1 paragraph 5, to this GR.
  - c) The engine being inspected in accordance with paragraph 4 in order to assess its condition before exceeding 120% of the recommended operating time or calendar time, whichever occurs first, and subsequently being inspected and re-assessed at 100 hour or yearly intervals, whichever occurs first.
  - d) The data obtained during the inspections of paragraph 4 being entered in the engine log book. A log book entry should also be made to restrict engine usage during this extension period to flying for the purposes of private flight only.

- 3.2 In the event that the inspection referred to in paragraphs 3.1.1 and 3.1.2 results in rejection, a thorough engineering investigation must be carried out to establish the maintenance actions required to return the engine to an airworthy condition.
- 4 The inspections referred to in paragraphs 3.1.1 and 3.1.2 to assess the condition of engines shall be in accordance with Appendix 3 and shall be carried out by persons or Organisations as follows:
- a) Engines installed in aircraft that are used for the purposes of Public Transport or Commercial Operation by an ANO approved Operator under an Air Operators Certificate, shall, in order to comply with paragraph 3.1.1, be inspected by a Maintenance Organisation appropriately approved for the purpose.
  - b) All other engines, in order to comply with paragraph 3.1.1 and 3.1.2, shall be inspected by an appropriately licensed aircraft maintenance engineer or an Organisation specifically approved for the purpose.
- 5 In no case shall any mandatory requirements be exceeded, and the compliance with mandatory bulletins/modifications/inspections shall be completed at the specified times.
- If during the course of operating beyond the engine manufacturer's recommended overhaul limits in accordance with Generic Requirement (GR) No.24 the engine experiences a mechanical failure or inspection requirement necessitating full or significant partial engine disassembly, the organisation performing the work should inspect the engine to determine if it is practicable to restore the engine to a serviceable condition without performing an overhaul. The results of the inspection should be recorded in the engine logbook.
- Examples of activities requiring significant disassembly include propeller strike/shock load inspections and crankshaft/camshaft replacements for wear-related issues. Defects requiring replacement of individual cylinder and piston assemblies, and oil pump (where such work does not involve the removal/replacement of individual gears) are not included in the category of maintenance necessitating assessment.
- 6 In the case of engines not incorporating all the service bulletins/modifications or parts that would enable it to qualify for any manufacturer's recommended overhaul period as defined in paragraph 3.1 of this GR, or in the case of engine types not included in the manufacturers' bulletins, a specific statement of acceptability in writing must be sought from the engine manufacturer, and if this is not obtainable, an application must be made to the CAA. The CAA need not be consulted in a case where the only question is that an engine manufacturer's documents restrict recommended overhaul periods to engines embodying only parts specified by the engine manufacturer. The CAA will not require such restrictions to be applied provided that all parts are acceptable under Leaflet B110 of CAAIP (CAP 562) and there has been no adverse experience relating to the use of such parts.
- 7 For clarity, the requirements of paragraph 3 are presented in tabular form in Appendix 2.

## Appendix 1 to GR No. 24

- 1 The concept of allowing engines to run beyond the manufacturer's recommended overhaul period depends upon it being possible to assess the condition of the engine by prescribed inspections carried out at defined intervals. It is not intended to provide a freedom to run until the engine fails.
- 2 Although it is possible to identify engine degradation in many areas of the engine, there are some potential failure modes (e.g. crankshaft cracking, counterweight wear) for which predictive checks would not be effective without engine disassembly.
- 3 For the above reasons, the overhaul period extensions defined in 3.1.1 and 3.1.2 of this GR may not be applied unless adequate in service reliability has been demonstrated, particularly in relation to failures which cannot be prevented by on-wing inspection. Those engine types that are not eligible to make use of the provisions of this GR are detailed in paragraph 5.
- 4 The CAA has sought the advice of the manufacturers of the majority of the piston engines currently used in light aircraft to try to identify those engine components which service experience has shown to have running time limits beyond which it would not be reasonable to operate, (i.e. components the failure of which are not susceptible to prior detection but which would result in either an unacceptably high failure rate or a hazardous failure). Any limits identified are reflected in paragraph 5 below.

### 5 Limitations

The provisions of this GR are applicable to all light aircraft piston engines except where listed below:

- 5.1 Rolls-Royce (de Havilland) Gipsy Major Engines - Prior to running beyond 120% of the manufacturer's recommended overhaul period, engines other than Major 10 and earlier marks incorporating Modification 2385 (splined propeller attachment) must have the taper portion of the crankshaft "Sulfinuz" treated by Modification 2690 or appropriate alternative. In accordance with Rolls-Royce Technical News Sheet G15, engines must not exceed an overhaul period of 1000 hours unless Modification 2495 is embodied.
- 5.2 Rolls-Royce (de Havilland) Gipsy Engines -With effect from 1 January 2011, crankshafts fitted to engines on aircraft used for the purposes of Public Transport or Commercial Operation must be fully inspected in accordance with the relevant overhaul manual workshop instructions at intervals not exceeding 20 years, if operating hours limits requiring overhaul are not achieved within this period.
- 5.3 The following engine types have yet to accumulate sufficient service experience to demonstrate acceptable reliability when operating at the manufacturer's recommended overhaul period. The provisions of this GR are not applicable to:
  - a) Societe de Motorisations Aeronautique - All types;
  - b) Rotax -All types, except when installed in self-launching or self-sustaining sailplanes;
  - c) Thielert Centurion Engines - All types;
  - d) Mid-West Engines - All types.

## Appendix 2 to GR No. 24

### Light Aircraft Piston Engine Overhaul Periods

	<b>Aircraft used for the purposes of Public Transport or Commercial Operation</b>	<b>Aircraft not used for the purposes of Public Transport or Commercial Operation (i.e. used for private flight only)</b>
Within Recommended Overhaul Period	Manufacturer's recommended overhaul period, defined in operating time and calendar time (if applicable), provided the engine conforms to appropriate service bulletin/modification configuration and types of operation. (Otherwise see paragraph 6 of this GR)	
Extensions not exceeding 20% of Recommended Overhaul Period (operating time and calendar time)	<p>Acceptable subject to:</p> <p>Compliance with Appendix 1 paragraph 5 to this GR.</p> <p>Compliance with all applicable ADs required to be incorporated at engine overhaul.</p> <p>Inspections in accordance with paragraph 4 of this GR at completion of recommended overhaul period (operating time or calendar time) and then at 100 hour or yearly intervals, whichever occurs first.</p> <p>The engine must have been installed and operated in a UK or EU Member State registered aircraft for a period of 200 hours prior to completion of the engine manufacturer's recommended overhaul period. (In some circumstances, aircraft imported from outside the EU which have not exceeded the manufacturer's recommended overhaul period but which have less than 200 hours remaining could be considered for extension with suitable technical justification to the CAA).</p>	
Extensions in excess of 20% of Recommended Overhaul Period	No further extension (In exceptional circumstances, CAA may consider applications for extension for a limited period to address an urgent operational need).	Engines may continue in service indefinitely subject to: <ul style="list-style-type: none"> <li>a) Compliance with Appendix 1 to this GR.</li> <li>b) Further inspection in accordance with paragraph 4 of this GR at 120% and then at 100 hour or yearly intervals, whichever occurs first.</li> </ul>

NOTE: This Table is intended for easy reference only; for detail the main text of this GR applies.

## Appendix 3 to GR No. 24

### Light Aircraft Piston Engine Maintenance Requirements For Operation Beyond Manufacturers' Recommended Overhaul Periods

- 1 This Appendix gives guidance on the procedures which are necessary for a light aircraft piston engine to be accepted as being in a condition that will allow operation beyond the recommended overhaul period under the terms of this GR.
- 2 A piston engine that has reached the end of its normal overhaul period may be expected to have suffered some wear to cylinders, pistons, valves, bearings and other moving parts, but an engine that has been carefully operated and maintained may still be in a condition suitable for a further period of service.
  - 2.1 Many factors affect the wear that takes place in an engine, the most important of these include: the efficiency of the air intake filter, the techniques used in engine handling, particularly during starting, the quality of the fuel and oil used in the engine and the conditions under which the aircraft is housed when not in use. Conditions of operation are also relevant; the length of flights, the atmospheric conditions during flight and on the ground, and the type of flying undertaken. Many of these factors are outside the province of the maintenance engineer, but meticulous compliance with the approved Maintenance Programme and any instructions provided in the form of service bulletins or constructor's recommendations will undoubtedly help to prolong the life of an engine.
  - 2.2 The inspections and tests that may be necessary to assess the condition of an engine in compliance with this GR are detailed in the following paragraphs.

### 3 Inspection and Maintenance

A number of items included in the normal scheduled maintenance of an engine may be repeated to determine the condition of an engine at the end of its normal overhaul period, and additional inspections may also be specified.

- 3.1 **External Condition.** The engine should be examined externally for obvious defects such as a cracked crankcase, excessive play in the propeller shaft, overheating and corrosion, which would make it unacceptable for further use.
- 3.2 **Internal Condition.** Significant information concerning the internal condition of an engine may be obtained from an examination of the oil filters and magnetic plugs, for metal particle contamination. These checks may be sufficient to show that serious wear or breakdown has taken place and that the engine is unacceptable for further service.
- 3.3 **Oil Consumption.** Since the oil consumption of an engine may have increased towards the end of its normal overhaul period, an accurate check of the consumption over the last 10 flying hours would show whether it is likely to exceed the maximum recommended by the constructor, if the overhaul period were to be extended.
- 3.4 **Compression Check.** Piston ring or cylinder wear, or poor valve sealing could, in addition to increasing oil consumption, result in a significant loss of power. A cylinder compression check is a method of determining, without major disassembly, the standard of sealing provided by the valves and piston rings. This should be carried out in accordance with the manufacturer's recommendations. In the absence of any published recommendations for a particular engine type, one of the methods of 3.4.1 to 3.4.3 should be used.



- 3.4.1 On engines with a small number of cylinders, a simple compression check may be carried out by rotating the engine by hand and noting the resistance to rotation as each cylinder passes through its compression stroke. The check should normally be made shortly after running the engine while a film of oil remains on the rubbing surfaces, to assist sealing and prevent scoring the working parts. If this is not possible, the constructor may recommend that oil is introduced into each cylinder and the engine turned through a number of revolutions before making the test.

This method may be used to determine serious loss of compression on a single cylinder or the difference between the compressions of individual cylinders, but may not accurately show a similar partial loss of compression on all the cylinders of an engine.

An alternative method, which will give a more accurate result, is to fit a pressure gauge (reading up to 1400 kPa (200 lbf/in<sup>2</sup>)) in place of one sparking plug in each cylinder in turn and note the reading as the piston passes through top dead centre (TDC) on the compression stroke.

- 3.4.2 Another method of carrying out a direct compression test is by the use of a proprietary type of compression tester equipped with a means of recording cylinder pressure on a graph card. One set of plugs should be removed immediately after an engine run, and the compression tester fitted to each cylinder in turn while rotating the engine by means of the starter motor. The effectiveness of combustion charge sealing can be judged by assessment of the graph records obtained.
- 3.4.3 A further method of checking engine compression is the differential pressure test. In this test a regulated air supply (normally 560kPa (80 lbf/in<sup>2</sup>)) is applied to each cylinder in turn and a pressure gauge used to record the actual air pressure in the cylinder. Since some leakage will normally occur, cylinder pressure will usually be less than supply pressure and the difference will be an indication of the condition of the piston rings and valves. By listening for escaping air at the carburettor intake, exhaust and crankcase breather, a defective component may be located. As with the previous tests, it is usually recommended that the differential pressure test is carried out as soon as possible after running the engine.

## 4 Power Output of Aeroplane Engines

The power developed by an aeroplane engine after initial installation is established in the form of a reference engine speed, which is recorded in the appropriate log book so that a comparison can be made during subsequent power checks. The reference engine speed is the observed engine speed obtained using specified power settings and conditions, corrected, by means of graphs supplied by the engine constructor (or those contained in Civil Aircraft Airworthiness Information and Procedures (CAAIP), CAP 562, Leaflet 70-70 Piston Engine Overhaul - Correcting Engine Test Results), to the figure which would be obtained at standard sea-level atmospheric temperature and pressure; changes in humidity do not produce large changes of power and are ignored for the purpose of establishing a reference engine speed or subsequently checking engine power. Power checks should be corrected in the same way.

- 4.1 **Power Checks.** The majority of light aeroplane piston engines are air-cooled and rely on an adequate flow of air for proper cooling of the cylinders. This condition can only be obtained during flight, and ground runs should, therefore, be as brief as possible. Cooling can be assisted by facing the aircraft into wind, but high wind conditions must be avoided when making power checks, as they will significantly affect the results obtained. Before running the engine at high power the normal operating temperatures should be obtained (not the minimum temperatures specified for operation) and during the test careful watch should be kept on oil and cylinder temperatures to prevent the appropriate limitations being exceeded.

- 4.1.1 Normally-aspirated engines are tested at full throttle and, where a controllable-pitch propeller is fitted, with fully fine pitch selected. The changes in barometric pressure affecting engine power are considered to be balanced by changes in propeller load, so that only a temperature correction is necessary. This correction factor may be obtained from a graph supplied by the engine constructor or, if this is not available, from the graph shown in CAAIP (CAP 562) Leaflet 70-70 Piston Engine Overhaul - Correcting Engine Test Results (Figure 1). The observed full throttle speed multiplied by the correction factor will give the corrected speed.
- 4.1.2 Although normally-aspirated engines are often fitted with variable-pitch propellers, the engine speed obtained at full throttle is usually less than the governed speed and the propeller remains in fully fine pitch. With supercharged engines, however, the propeller is usually governed to a constant speed at high power settings and small changes in power will not affect engine speed. The power of a supercharged engine is, therefore, checked by establishing a reference speed at prescribed power settings.
- Since a supercharged engine is run at a specified manifold pressure regardless of the atmospheric pressure, corrections must be made for both temperature and pressure variations from the standard atmosphere.
  - The procedure is to run the engine until normal operating temperatures are obtained, open up to maximum take-off manifold pressure, decrease power until a fall in engine speed occurs (denoting that the propeller blades are on their fine pitch stops), then throttle back to the manifold pressure prescribed by the constructor and observe the engine speed obtained.
  - The correction factor to be applied to the observed engine speed of a supercharged engine may be obtained from graphs supplied by the engine constructor.
- 4.1.3 Although the engine speed obtained during a check of engine power is corrected as necessary for atmospheric temperature and pressure, no correction is made for humidity, ambient wind conditions or instrument errors and, consequently, the corrected engine speed is seldom exactly equal to the reference speed even if engine condition is unchanged. However engine power may usually be considered satisfactory if the corrected speed obtained during a power check is within 3% of the reference speed.
- 4.1.4 If it is not possible to assess power deterioration by means of a power check (e.g. due to fitting a different propeller), a rate-of-climb flight test should be carried out.

## **5 Power Output of Helicopter Engines**

The power developed by the engine of a single-engined helicopter is considered to be adequately checked during normal operations any loss of power should be readily apparent. It is thus not considered necessary to check the power output of a helicopter engine separately specifically for the purpose of complying with this GR.

## **6 Power Loss**

If the power check (paragraph 4) or normal engine operation reveal an unacceptable loss of power or rough running, it may be possible to rectify this by carrying out certain normal servicing operations or by replacement of components or equipment. The replacement of sparking plugs, resetting of tappets or magneto contact breaker points, or other adjustments to the ignition or carburetion systems, are all operations that may result in smoother running and improve engine power.

## **7 Servicing**

If the engine proves to be suitable for further service, a number of servicing operations will normally be due, in accordance with the approved Maintenance Programme. Unless carried out previously (paragraph 6) these operations should be completed before the engine is returned to service.

## **8 Log Book Entries**

A record of the checks made, and any rectification or servicing work, must be entered and certified in the engine log book before the engine is cleared to service for its recommended or extended life under the provision of this GR. The log book entry made should also specify any restriction on further use (see paragraph 3.1.2 of this GR).

## **9 Maintenance Schedule and Programme Amendments**

The aircraft maintenance programme should reflect the maintenance requirements required and their periodicity, to operate the aircraft engine beyond its recommended overhaul period as detailed in this GR.

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## GR No. 25      Aerobatic Smoke Systems

### 1      **Applicability**

The following requirements apply to smoke systems fitted to aircraft defined in Regulation (EU) 2018/1139, Article 2 as State/Public Service aircraft or aircraft listed in Annex I to that Regulation. These aircraft are known collectively as 'non-EASA' aircraft.

### 2      **Requirements**

#### 2.1      **Weight**

The definition of empty weight for the aircraft shall include the weight of the smoke system but exclude that of the fluid. The aircraft must remain within the existing weight and centre of gravity limits.

#### 2.2      **Strength**

The smoke system shall be stressed to withstand the same load cases to which the aircraft was designed, including the manoeuvre, gust and emergency alighting cases.

*Guidance Material: The stressing submission need only cover additionally installed parts associated with the smoke system. Conservative load factor stressing assumptions may be made which may obviate the need to establish specific load factors.*

#### 2.3      **Cockpit**

The cockpit controls shall be located such that the pilot, when seated, strapped in and in full flying kit, has full and unrestricted movement of each control. The cockpit shall have adequate ventilation.

*Guidance Material: A CAA pilot may carry out a cockpit assessment to assess qualitatively the air quality in the cockpit.*

#### 2.4      **Smoke Fluid Tank Design and Installation**

Each tank shall withstand without failure the vibration, inertia, fluid and structural loads that it may be subjected to in operation. Each conventional metal tank shall be pressure tested to 3.5 psi.

The smoke fluid tank filler connection shall be electrically bonded to the aircraft structure. Any vent system shall be vented to the exterior of the aircraft.

#### 2.5      **Lines fittings and components**

The lines, fittings and components shall conform to good engineering practice and be compatible with the fluids to be used.

#### 2.6      **Smoke fluid**

The smoke fluid specifications are to be established for the system. The system shall be configured in such a way that the possibility of accidental filling with AVGAS or any other inappropriate fuel is unlikely.

*Guidance Material: The filler neck may be fitted with a restrictor to ensure that a normal AVGAS refuelling nozzle cannot be inserted. A suitable placard may be accepted in lieu of an undersized filler neck.*

## 2.7 **Miscellaneous markings and placards**

The smoke tank filler connection shall be placarded with the approved smoke fluid specification and the usable capacity of the tank. System controls should be appropriately placarded, this placard also conveying any operating limitations.

## 2.8 **Fire Safety**

Particular attention must be given to the requirements of CS 23.1121(b) with respect to the smoke fluid line that introduces the smoke fluid into the exhaust system.

In order to minimise the probability of an unsafe operation, it must be demonstrated that under the critical operating conditions, there is no risk of uncontrolled ignition of the injected smoke fluid either within or external to the exhaust system.

Unless it can be shown that there is no possibility of a fire under normal or failure conditions, it must be shown that the flow of smoke fluid can be stopped to prevent further smoke fluid reaching the exhaust system.

## 2.9 **Flight Manual Supplement**

The Applicant shall provide a Supplement, prepared in accordance with BCAR Section K Chapter K7-5, Appendix 5. (Contact Certification Department for copies if required.)

A copy of the supplement must be inserted at the back of the specific approved flight manual applicable to the modified aircraft.

Where no flight manual exists for the aircraft a limitation requiring the use of the supplement must be added to the Conditions on either the Certificate of Airworthiness or Permit to Fly.

## Part 5            Generic Concessions (GCs)

### GC No. 1            Airworthiness Concessions in Respect of Foreign Built Aircraft

(Previously issued as Airworthiness Notice No. 74, Issue 6, 21 March 2005.)

#### 1            Introduction

From time to time UK operators find it necessary to apply to the CAA for concessions to cover the non-compliance of certain foreign built aircraft with the applicable requirements notified in Section 2 of this CAP 747. The requirements notified in Section 2 are the measures that the CAA has applied in the UK in addition to the standards applied by EASA. These measures have been notified to the European Commission in accordance with Article 70 of Regulation (EU) 2018/1139. Following a review the Commission will decide whether to apply the notified measures throughout the European Union (EU), or to require that the measures are revoked. This Generic Concession No. 1 concerns concessions against these notified items only. It is not applicable to concessions against requirements applied by EASA. The reasons why applications for concessions are made include:

- a) Aircraft being purchased and placed on the UK Register at short notice.
- b) Aircraft being dry leased (see Note 1) on a relatively long term basis (e.g. 12 months or more), but required in service before all necessary modifications can be embodied.
- c) Aircraft being dry leased on a short term basis (e.g. 6 months), for which the lead time on parts procurement may render compliance difficult.

**NOTES:** 1) 'Dry lease' refers to those aircraft under operational control of a UK operator (i.e. subject to a direction under Article 19 of the ANO 2016). Such aircraft are required to meet all applicable requirements.

- 2) Aircraft on 'wet lease', i.e. under the control of the lessor operator, are considered the responsibility of the State in which they are registered and by whom they are operated.

This Concession summarises the criteria which will normally be applied by the CAA in determining whether or not, in a particular case, a concession should be granted.

#### 2            Aeroplanes with a Proven and Satisfactory Record

##### 2.1            Definition

Aeroplanes which, according to their class, satisfy the criteria in Appendix 1 are considered to have a proven and satisfactory record.

##### 2.2            Policy on Concessions

The aeroplane must normally be of a kind Type Certificated in the European Union (EU) and in principle be in compliance with the requirements of this CAP 747. However, subject to the criteria set out in Appendix 2 of this Concession, the CAA will give consideration to granting concessions against compliance with individual requirements notified in Section 2 of this CAP 747. Having regard to the record of the type, it will normally be possible to consider granting concessions against certain CAP 747 requirements for up to 6 months and, for large aeroplanes with more than 50 million hours of satisfactory service experience, this period may be increased.

### **3 Aeroplanes other than Well Proven Types and Helicopters**

#### **3.1 Definition**

Aeroplanes other than those meeting the criteria of Appendix 1, and helicopters.

#### **3.2 Policy on Concessions**

The aircraft must normally be of a kind Type Certificated in the EU and in principle be in compliance with the Requirements of this CAP 747. Requests for concessions will be expected to be clearly justified in the light of the considerations in Appendix 2. Where concessions are granted in respect of CAP 747 requirements they will be of limited duration and will not, under normal circumstances, exceed 6 months in duration.



## Appendix 1 to GC No.1

(Previously issued as Airworthiness Notice No. 74, Appendix 1, Issue 3, 5 November 1993.)

### Aeroplanes Considered to have a Proven and Satisfactory Record

<b>MTWA kg</b>	<b>Minimum Service Experience – Hours</b>	<b>Average Fatal Accident Rate</b>	<b>Examples</b>
Not Exceeding 5700	2 million	Appreciably less than 10 per million hours	Beech 90, 99 DHC-6 Embraer Bandeirante
Exceeding 5700	20 million	Not exceeding 1 per million hours	Boeing 727 Boeing 737 Boeing 747 Douglas DC-9/MD-80 Douglas DC10/MD 11

## Appendix 2 to GC No. 1

(Previously issued as Airworthiness Notice No. 74, Appendix 2, Issue 3, 21 March 2005.)

### Criteria Applied by CAA When Considering Concessions Against UK Certification Requirements

- 1 Concessions will be considered for up to six months on any one aircraft, and this period may be extended where service experience exceeds 50 million hours.
- 2 In considering whether a concession should be granted, account will be taken of the accident record with respect to the Additional Requirement or other requirement in question.
- 3 The operator's obligations to comply with operational requirements may constrain the scope of any Concession. Amongst other items:
  - a) Aircraft Performance Information
    - comply with UK standards in important respects.
  - b) Handling, flight deck layout, instrumentation, flight management systems and warnings
    - differences within a fleet to be acceptable may require dedicated crews and relevant training.

## GC No. 6 **Flight in UK Airspace of Certain Foreign Registered Aircraft not holding ICAO compliant Certificates of Airworthiness**

### 1 **Introduction**

- 1.1 As a signatory and Contracting State to the Convention on International Civil Aviation (ICAO) dated 7 December 1944 (the 'Chicago' Convention) the UK will normally recognise compliant Certificates of Airworthiness in accordance with the Convention and its Annexes and allow the aircraft access to UK airspace.
- 1.2 Article 33 of the United Kingdom Air Navigation Order 2016 prohibits the flight in UK airspace of foreign registered aircraft that do not hold ICAO compliant Certificates of Airworthiness (issued to comply with the Convention on International Civil Aviation dated 7 December 1944). Certain ex-military and other civil aircraft, including amateur or home-built aircraft, are not eligible for, and cannot hold the ICAO Certificate of Airworthiness which Article 33 requires.
- 1.3 The UK CAA may, under the provisions of the Air Navigation Order, grant exemptions from Article 33 of the Order and so allow foreign registered non-ICAO compliant aircraft to fly in UK airspace. This Generic Concession (GC) provides three General Exemptions for certain classes of aircraft and explains what is required of the owners of aircraft who wish to make use of them.
- 1.4 Owners of aircraft not covered by these General Exemptions may apply directly to the CAA for an individual exemption to access UK airspace subject to certain conditions. Please apply to [apply@caa.co.uk](mailto:apply@caa.co.uk)

### 2 **Background**

#### 2.1 **ECAC Agreement**

- 2.1.1 Further to successive recommendations by the European Civil Aviation Conference (ECAC), the CAA now allows two aircraft categories registered in another ECAC member state<sup>1</sup> access to UK airspace only in respect of over-flight and short-term visits, without the need to apply for individual exemptions. It does not provide a basis for a foreign registered aircraft to be resident in the UK:
  - **Home-built aircraft** holding a (non-ICAO compliant) Permit to Fly or equivalent document issued by an ECAC member state to fly in their country without any restrictions other than those stated in the Permit to Fly or equivalent document. This is further to an ECAC recommendation in 1980; and
  - **Certain historic aircraft types:** further to a second recommendation in 2016, aircraft types with the following characteristics:
    - a) non-military in origin: the aircraft type was not designed and operated solely for military purposes, though civil-designed aircraft that were operated by the military are allowed; and,
    - b) as such the type previously held an ICAO-compliant Certificate of Airworthiness and now operates under a Permit to Fly or equivalent issued by an ECAC member state; and
    - c) its initial design was established before 1 January 1955 and production has ceased before 1 January 1975; and

<sup>1</sup> For a list of member states, please refer to [www.prod.ecac-ceac.org/member-states](http://www.prod.ecac-ceac.org/member-states)

- d) the type has a Maximum Take-Off Mass not exceeding 5,700kg; and
- e) it is operated on a non-commercial basis.

2.1.2 The CAA implemented this recommendation on behalf of the United Kingdom by issuing ORS4 no.1249 dated 20 December 2017 containing General Exemption E4602 and is shown at Appendix 1. This exempted the relevant aircraft from compliance with the appropriate provisions of the Air Navigation Order relating to the need to hold Certificates of Airworthiness.

2.1.3 This Exemption is shown in Appendix 1, and previous exemptions of this nature have been revoked and replaced.

## **2.2 Agreement between the UK CAA and DGAC France**

2.2.1 In addition to 2.1 above, the CAA has negotiated a mutual agreement with the French DGAC to allow certain **French registered aircraft types other than home-built aircraft** to fly in each other's State on the basis of a permit or equivalent document issued by the other party. This extends the applicability and flexibility of exemptions beyond the 1980 ECAC recommendation.

2.2.2 However, ex-military aircraft outside the definition set out in paragraph 2.1.1 above and factory built gyroplanes<sup>2</sup> are not covered by this UK CAA/DGAC-F Agreement and must therefore apply for, and hold individual exemptions prior to entering UK airspace. See paragraph 1.4.

2.2.3 The exemption relating to this mutual agreement is shown at Appendix 2.

## **2.3 Agreement between the UK CAA and the Irish Aviation Authority**

2.3.1 In addition to 2.1 above, the CAA has negotiated a mutual agreement with the Irish Aviation Authority (IAA) to allow certain **Irish registered aircraft types** to fly in each other's State on the basis of a permit or equivalent document issued by the other party. This extends the applicability and flexibility of exemptions beyond the 1980 ECAC recommendation.

2.3.2 The agreement covers manned civil aircraft in the following categories that are subject to a Flight Permit issued by the IAA:

- a) Home built aircraft.
- b) Historic aircraft types that previously held an ICAO-compliant Certificate of Airworthiness, initially designed before 1 January 1955 and whose production has ceased before 1 January 1975 and whose maximum take-off mass does not exceed 5,700kg.
- c) Aircraft specifically designed or modified for research, experimental or scientific purposes, and likely to be produced in very limited numbers.
- d) Single-seat microlight aircraft with a maximum take-off mass of not more than:
  - i) 300kg for a land plane/helicopter;
  - ii) 330kg for an amphibian or floatplane/helicopter; or
  - iii) 315kg for a land plane equipped with an airframe mounted total recovery parachute system.

and, for aeroplanes, having a stall speed or the maximum steady flight speed of not more than 35 knots calibrated air speed.

- e) Two-seat microlight aircraft with a maximum take-off mass of not more than:
  - i) 450kg for a land plane/helicopter; or

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2 Certain lighter weight gyroplanes may be classified as amateur built.

- ii) 495kg for an amphibian or floatplane/helicopter, provided that, where operating both as a float plane or helicopter and as a land plane or helicopter it falls below both MTOM limits as appropriate.

and, for aeroplanes, having a stall speed or the maximum steady flight speed of not more than 35 knots calibrated air speed.

- f) Gliders with a maximum empty mass, of not more than 80kg when single-seater, or 100kg when two-seater, including those which are foot launched.
- g) Replicas of aircraft of (b) above, for which the structural design is similar to the original aircraft.
- h) Factory-built gyroplanes.
- i) Any other aircraft which has a maximum empty mass, including fuel, of no more than 70kg.
- j) However, ex-military aircraft that were not previously certificated as a civil aircraft are not covered by this UK CAA/Irish Aviation Authority Agreement and must therefore apply for, and hold individual exemptions prior to entering UK airspace. See paragraph 1.4.

2.3.3 The exemption relating to this mutual agreement is shown at Appendix 3.

### **3 Scope of the General Exemptions**

3.1 The intent of these exemptions is to facilitate over-flight or short-term visits. As such the exemptions allow a maximum period of 28 consecutive days for the intended stay, unless otherwise agreed by the CAA as an individual exemption. Where there is a need for the aircraft to be in the UK for a period of more than the 28 days permitted under either of the General Exemptions, a specific exemption will be required. Application may be made by following the process described in paragraph 1.4.

3.2 For aircraft that do not qualify to take advantage of either of the General Exemptions for any other reason, an individual exemption will also be required as noted in paragraph 1.4.

### **4 Conditions**

4.1 The conditions of the Exemptions in Appendices 1 to 3 require that, before flying a foreign aircraft in UK airspace, the owner of the aircraft must ensure that the documents specified in Schedule 1 of each Exemption are valid and available for inspection on demand by the CAA when the aircraft is in the UK.

4.2 Aircraft using these exemptions are not required to notify the CAA in advance, unless, as per paragraph 3.1, the owner intends or wishes to exceed the maximum 28 day period provided under these exemptions.

4.3 Any person flying a foreign registered aircraft in the UK on the basis of a permit or equivalent document without complying with the terms of the applicable Exemption at Appendices 1 to 3 (or obtaining an alternative exemption from the CAA) will be flying in breach of Article 33 of the Air Navigation Order 2016 and therefore be liable to prosecution.

4.4 Foreign pilots should familiarise themselves with the applicable rules of the air for the UK as there may be some material differences between UK practice and the equivalent rules that apply in the State of registry.

## **5 Contact details for enquiries**

Shared Service Centre  
2E, Aviation House  
Beehive Ring Road  
Crawley  
West Sussex  
RH6 0YR  
UNITED KINGDOM  
Fax: + 44 1293 57 3860  
E-Mail: [apply@caa.co.uk](mailto:apply@caa.co.uk)

**Appendix 1 to GC No. 6** (available at [www.caa.co.uk/ORS4no1249](http://www.caa.co.uk/ORS4no1249))**Official Record Series 4****United Kingdom  
Civil Aviation Authority****Miscellaneous****No:** 1249**Air Navigation Order 2016****Publication date:** 20 December 2017**General Exemption E 4602****General Exemption for Foreign Registered Home-Built Aircraft and Certain Historic Aircraft**

- 1) To facilitate over-flight and visits to the UK by foreign registered home-built aircraft and certain historic aircraft, the Civil Aviation Authority, in exercise of its powers under Article 266 of the Air Navigation Order 2016, exempts, subject to paragraph 2, any home-built aircraft or certain historic aircraft registered in a Member State of the European Civil Aviation Conference from the provisions of Article 33 of the said Order.

**Conditions of Exemption**

- 2) This exemption is granted subject to the following conditions that apply to both categories of aircraft:
  - a) The aircraft is flown under and in accordance with a valid Permit to Fly or equivalent document issued by the State of Registry.
  - b) The aircraft must not be flown for the purpose of public transport or commercial work.
  - c) The aircraft must be flown by day only and in accordance with the Visual Flight Rules.
  - d) The aircraft must not remain in the United Kingdom pursuant to this exemption for a period of more than 28 consecutive days in any one visit, without the prior permission of the CAA.
  - e) The owner of the aircraft must ensure that the documents specified in Schedule 1 to this exemption are valid and available for inspection by the CAA on demand when the aircraft is in the UK.
- 3) The following conditions also apply to certain historic aircraft types:
  - a) The type previously held an ICAO-compliant Certificate of Airworthiness and now operates under a Permit to Fly or equivalent issued by an ECAC member state;
  - b) Its initial design was established before 1 January 1955 and production has ceased before 1 January 1975; and
  - c) The type has a Maximum Take-Off Mass not exceeding 5,700kg.
- 4) This exemption supersedes Official Record Series 4 No. 909, which is revoked.

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20 December 2017

Page 1 of 2

UK Civil Aviation Authority

Official Record Series 4, No. 1249

5) This exemption shall have effect from the date it is signed until revoked.

M D Shortman  
for the Civil Aviation Authority  
20 December 2017

#### **SCHEDULE 1**

##### **Documents to be made available for inspection by the CAA**

Whenever a foreign registered non-ICAO compliant aircraft is visiting the UK under the terms of this exemption, the owner of the aircraft shall ensure that the documents specified as set out below, are valid and available for inspection by the CAA on demand:

- A valid registration document from the ECAC Member State or, if appropriate, the Provincial authority for French ULM aircraft;
- A valid airworthiness certificate issued by the State of Registry (e.g. CDNR, CNRAC), Permit to Fly or equivalent document, e.g. Carte d'Identification (ULM) or Flight Permit for the aircraft;
- A valid insurance certificate or document as appropriate that meets the requirements of European Regulation (EC) 785/2004, where necessary; and
- A valid radio station licence, if appropriate.

20 December 2017

Page 2 of 2



## Appendix 2 to GC No. 6 (available at [www.caa.co.uk/ORS4no910](http://www.caa.co.uk/ORS4no910))

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### Official Record Series 4

**United Kingdom  
Civil Aviation Authority**



#### Miscellaneous

**No:** 910

#### Air Navigation Order 2009

**Publication Date:** 23 May 2012

#### Exemption

### General Exemption – E 3364

#### Exemption for Certain French Registered Aircraft not possessing ICAO Compliant Certificates of Airworthiness

- 1) In order to facilitate over flight and visits to the UK by certain French registered aircraft, other than home-built aircraft, that do not hold ICAO compliant Certificates of Airworthiness, the Civil Aviation Authority, in exercise of its powers under Article 242 of the Air Navigation Order 2009, exempts, subject to paragraph 3, any French registered aircraft coming within the definitions of paragraph 2 from the provisions of Article 16 of the said Order.

#### Qualifying Aircraft

- 2) This exemption applies to:
- Factory built microlight aeroplanes classified and operating under the ULM category in France<sup>1</sup>;
  - Historic aircraft, as defined by the French DGAC, of civil design<sup>2</sup> and possessing a CNRAC airworthiness certificate; and
  - Civil aircraft classified and operating under a CDNR airworthiness certificate in France.

#### Conditions of Exemption

- 3) This exemption is granted subject to the following conditions:
- The aircraft must be flown under and in accordance with a valid airworthiness certificate (e.g. CDNR, CNRAC), Permit to Fly or equivalent document, e.g. Carte d'Identification (ULM) for the aircraft, issued by the French Direction Generale de L'aviation Civile (DGAC).
  - The aircraft must not be flown for the purpose of public transport or aerial work.

1. e.g. an aircraft complying with the definition of Article 2 of the French Order of 23<sup>rd</sup> September 1998, relating to microlights (excluding gyroplanes).

2. Civil design means an aircraft designed and certified against civil design codes, although historic aircraft may not have been issued with a civil type certificate at the time of manufacture. This can include civil types used in military service, e.g. the DH Chipmunk.

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UK Civil Aviation Authority

Official Record Series 4, No. 910

- c) The aircraft must be flown by day only and in accordance with the Visual Flight Rules.
  - d) The aircraft must not remain in the United Kingdom pursuant to this exemption for a period of more than 28 days in any one visit, without the prior permission of the CAA.
  - e) The owner of the aircraft must ensure that the documents specified in Schedule 1 to this exemption are valid and available for inspection by the CAA on demand when the aircraft is in the UK.
  - f) The aircraft must be registered in France and display the relevant markings assigned by France as the State of Registry, e.g. F-xxxx. In the case of the French ULM category, sub-ICAO aircraft registered under provincial rules; the CAA has agreed with DGAC-F to recognise the use of provincial registrations e.g. 21-xx.
- 4) This exemption shall have effect from the date below until revoked.

J C McKenna  
for the Civil Aviation Authority and the United Kingdom  
Dated 5 March 2012

## **SCHEDULE 1**

### **Documents to be made available for inspection by the CAA**

Whenever a foreign registered non-ICAO compliant aircraft is visiting the UK under the terms of this exemption, the owner of the aircraft shall ensure that the documents specified as set out below, are valid and available for inspection by the CAA on demand:

- A valid registration document from the ECAC Member State or, if appropriate, the Provincial authority for French ULM aircraft;
- A valid airworthiness certificate issued by the State of Registry (e.g. CDNR, CNRAC), Permit to Fly or equivalent document, e.g. Carte d'Identification (ULM) or Flight Permit for the aircraft;
- A valid insurance certificate or document as appropriate that meets the requirements of European Regulation (EC) 785/2004, where necessary; and
- A valid radio station licence, if appropriate.

23 May 2012

Page 2 of 2

## Appendix 3 to GC No. 6 (available at [www.caa.co.uk/ORS4no1265](http://www.caa.co.uk/ORS4no1265))

### Official Record Series 4

United Kingdom  
Civil Aviation Authority



Miscellaneous

No: 1265

Air Navigation Order 2016

Publication date: 12 April 2018

### General Exemption E 4680

#### Exemption for Certain Irish Registered Aircraft not possessing ICAO Compliant Certificates of Airworthiness

- 1) To facilitate over flight and visits to the UK by certain Irish registered aircraft, the Civil Aviation Authority, in exercise of its powers under Article 266 of the Air Navigation Order 2016, exempts, subject to paragraph 3, any Irish registered aircraft coming within the definitions of paragraph 2 from the provisions of Article 33 of the said Order.

#### Qualifying aircraft

- 2) This exemption applies to civil aircraft in the following categories that are subject to a Flight Permit issued by the Irish Aviation Authority:
  - a) Home built aircraft.
  - b) Historic aircraft types that previously held an ICAO-compliant Certificate of Airworthiness, initially designed before 1 January 1955 and whose production has ceased before 1 January 1975 and whose maximum take-off mass does not exceed 5,700kg.
  - c) Aircraft specifically designed or modified for research, experimental or scientific purposes, and likely to be produced in very limited numbers.
  - d) Single-seat microlight aircraft with a maximum take-off mass of not more than:
    - (i) 300kg for a land plane/helicopter;
    - (ii) 330kg for an amphibian or floatplane/helicopter; or
    - (iii) 315kg for a land plane equipped with an airframe mounted total recovery parachute system.

and, for aeroplanes, having a stall speed or the maximum steady flight speed of not more than 35 knots calibrated air speed.
  - e) Two-seat microlight aircraft with a maximum take-off mass of not more than:
    - (i) 450kg for a land plane/helicopter; or
    - (ii) 495kg for an amphibian or floatplane/helicopter, provided that, where operating both as a float plane or helicopter and as a land plane or helicopter it falls below both MTOM limits as appropriate.

and, for aeroplanes, having a stall speed or the maximum steady flight speed of not more than 35 knots calibrated air speed.
  - f) Gliders with a maximum empty mass, of not more than 80kg when single-seater, or 100kg when two-seater, including those which are foot launched.

The latest version of this document is available in electronic format at [www.caa.co.uk/publications](http://www.caa.co.uk/publications), where you may also register for e-mail notification of amendments.

12 April 2018

Page 1 of 2

UK Civil Aviation Authority

Official Record Series 4, No. 1265

- g) Replicas of aircraft of (b) above, for which the structural design is similar to the original aircraft.
- h) Factory-built gyroplanes.
- i) Any other aircraft which has a maximum empty mass, including fuel, of no more than 70kg.

**Conditions of Exemption**

- 3) This exemption is granted subject to the following conditions that apply to all categories of aircraft:
    - a) The aircraft must be registered in Ireland and display the relevant markings assigned by Ireland as the State of Registry.
    - b) The aircraft must be flown in accordance with the conditions, limitations and restrictions under a Flight Permit, Flight Permit Exemption, or equivalent document issued by the Irish Aviation Authority.
    - c) The aircraft must not be flown for the purpose of public transport or commercial operations.
    - d) The aircraft must be flown by day only and in accordance with the Visual Flight Rules.
    - e) The aircraft must not remain in Great Britain pursuant to this exemption for a period of more than 28 days in any one visit, without the prior permission of the CAA.
    - f) The aircraft may enter or overfly the territory of Northern Ireland pursuant to this exemption, without the prior permission of the CAA.
    - g) The owner of the aircraft must ensure that the documents specified in Schedule 1 to this exemption are valid and available for inspection by the CAA on demand when the aircraft is in the UK.
- NOTE:** Paragraph e) is intended to facilitate regular short-term visits of qualifying aircraft to Northern Ireland. It is not intended to accommodate Irish registered aircraft being based or becoming resident in Northern Ireland. Where this proves to be the case, the aircraft will be required to be registered in the United Kingdom.
- 4) This exemption supersedes Official Record Series 4 No.911, which is revoked.
  - 5) This exemption has effect from the date it is signed until revoked.

N Williams  
for the Civil Aviation Authority

12 April 2018

12 April 2018

Page 2 of 2

## **GC No. 7                      Use of Unleaded Aviation Gasoline (Avgas) UL 91 in Annex I Aircraft**

### **1                      Applicability**

- 1.1                      This Concession is applicable only to aircraft defined in Annex I of Regulation (EU) 2018/1139 (as amended), known as 'Annex I aircraft' or 'non-EASA aircraft'. For EASA-regulated aircraft, reference should be made to EASA CS-STAN, Subpart B, CS-SC202.

**NOTE:** Owners of aircraft under the airworthiness administration of the LAA may use LAA Airworthiness Approval Notice LAA-999-413 supplement 5 (or later) as an approval to use UL 91, subject to the conditions stated therein.

### **2                      Introduction**

- 2.1                      Because of the difficulties experienced in obtaining Aviation Gasoline (Avgas), particularly in small quantities, and the ready availability of Motor Gasoline (Mogas), CAA was asked to consider permitting the use of Mogas in general aviation aircraft. This was granted under the auspices of Generic Concessions (GCs) 2, 3, 4 and 5, published in CAP 747 (previously Airworthiness Notices 98, 98A, 98B and 98C), which allow microlights and certain light aircraft to use Mogas, subject to the conditions therein.
- 2.2                      Since the publication of these documents, the composition and properties of some Mogas fuels has changed and it is becoming increasingly difficult to obtain Mogas that does not contain any alcohol. With the exception of microlights, the use of Mogas containing alcohol is generally prohibited in aircraft.
- 2.3                      This Generic Concession, by means of the attached Exemption against Article 33 of the Air Navigation Order 2016 (as amended), permits the use of a new unleaded aviation fuel, UL 91 Avgas, in Annex I aircraft, subject to the conditions stated in this Concession.

### **3                      General**

- 3.1                      Unleaded Avgas UL 91 is a type of unleaded aviation fuel with similar properties to those of Avgas 100LL but without the addition of Tetraethyl Lead (TEL). The octane rating of UL 91 is broadly equivalent to BS EN228:2004 unleaded Mogas but this fuel does not contain octane boosting additives such as ethanol or ETBE, which are commonly included in Mogas.
- 3.2                      The absence of Mogas additives in UL 91 eliminates material compatibility issues associated with the presence of ethanol in fuel and its effect on certain components. Additionally, aircraft operating with unleaded Avgas are not required to observe the maximum altitude and fuel temperature restrictions placed upon aircraft operating with Mogas.
- 3.3                      As an aviation fuel, the production and delivery of UL 91 is subject to stringent quality control procedures in order to protect the fuel from contamination and to maintain its quality and traceability. Additionally, the Air Navigation Order (ANO) places obligations on the managers of aviation fuel installations at aerodromes and personnel carrying out refuelling to apply procedures to maintain the quality of the fuel.
- 3.4                      It should be noted that although the CAA is satisfied that the qualifying aircraft/engines may be operated with adequate safety on UL 91, subject to the conditions stated in this Concession, the CAA takes no responsibility for infringement of the manufacturer's

warranty, accelerated deterioration of the engine or airframe components, or any other long term deleterious effects.

## 4 Conditions for using UL 91

- 4.1 UL 91 meets the requirements of ASTM D7547 therefore where an aircraft is already approved for operation with Avgas 100LL (according to ASTM D910, Def Stan 91-90, Mil-G-5572, GOST1012-72 or equivalent), additional approval for the use of unleaded Avgas UL 91 is required only for the engine.
- 4.2 Approval is given either by means of the manufacture confirming the acceptability of UL 91 for a particular engine type or variant or by evidence that the use of UL 91 will not be detrimental to the safe operation of the engine.
- 4.3 On the issue date of this Concession, two manufactures are known to have confirmed acceptance of UL 91 for certain products. The latest versions of the Service Instructions listed below identify which engines are approved by these manufacturers. Approval of other engines and by other manufacturers may be under review by the engine type certificate holders but has not yet been granted.
- Rotax Service Instruction SI-912-016/SI-914-019, latest revision.
  - Lycoming Service Instruction No. 1070R or later revision.
- 4.4 Engines and aircraft types approved to use unleaded Mogas RON 95 (MON 85) in accordance with Standard EN228:2008 are deemed as suitable for operation with UL 91 and are exempted from the requirements to gain approval to use this fuel in accordance with the Exemption given in Appendix 1 to this Concession.
- 4.5 Engines and aircraft types approved to use 80/87 Avgas and which do not require TEL for engine lubrication are also suitable for operation with UL 91 and are exempted from the requirements to gain approval to use this fuel in accordance with the Exemption given in Appendix 1 to this Concession.
- 4.6 If none of the above is applicable then approval to use UL 91 should be requested from the engine manufacturer in the first instance. Where the engine manufacturer no longer exists, or the engine type is no longer supported, application for approval should be made to the CAA. In order to gain approval to use UL 91, it will be necessary to demonstrate its suitability for the particular engine/airframe combination and to provide evidence that the absence of tetraethyl lead will not be detrimental to the safe operation of the engine.

## 5 Precautions

- 5.1 The use of UL 91 in engines that have not been approved for the use of this fuel may cause extensive damage or lead to in flight failure, due to the lower Motor Octane Number (MON) of the fuel, compared to Avgas 100LL.

**NOTE:** UL 91 is not equivalent to 91/96 Avgas.

- 5.2 Before using unleaded Avgas UL 91, it is necessary to take the following actions:
- a) Check the latest instructions of the engine type certificate holder to verify if the engine installed on their aeroplane is approved for use of unleaded Avgas UL 91;
  - b) Verify that the engine has not been modified or altered in a way that invalidates approval to use UL 91;

- c) Install on each fuel cap a label from the fuel supplier or make your own placard identifying that unleaded Avgas UL 91 is acceptable fuel for the aeroplane.

## **6 Reference Publications**

### **6.1 Standards and Specifications:**

- ASTM D7547 "Standard Specification for Unleaded Aviation Gasoline"
- ASTM D910 "Standard Specification for Aviation Gasoline"
- Defence Standard 91-90.
- EN228:2008 "Automotive fuels – Unleaded petrol – Requirements and test methods"

### **6.2 Related Service Information of Engine Type Certificate Holders:**

- Rotax Service Instruction SI-912-016/SI-914-019, latest revision.
- Lycoming Service Instruction No. 1070R or later revision.

6.3 Later revisions of these publications may be available.

## Appendix 1 to GC No. 7 – Air Navigation Order 2009 Exemption

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**Official Record Series 4**

**United Kingdom  
Civil Aviation Authority**



**Miscellaneous**

**No:** 947

**Air Navigation Order 2009**

**Publication Date:** 31 October 2012

**General Exemption E3395**

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### **AIR NAVIGATION ORDER 2009 EXEMPTION TO ALLOW NON-EASA AIRCRAFT TO USE UNLEADED AVGAS UL 91**

- 1) The Civil Aviation Authority (the CAA), in exercise of its powers under article 242 of the Air Navigation Order 2009 (the Order), exempts, subject to paragraph 3, the aircraft set out in Schedule 1 with the engines as specified in that Schedule, from the requirement at article 16(1) of the Order to comply with the conditions of its certificate of airworthiness (including the flight manual).
- 2) The CAA, in exercise of its powers under article 242 of the Order, exempts, subject to paragraph 3, the aircraft set out in Schedule 1 with the engines as specified in that Schedule, from the requirement at article 22(3)(a) of the Order to comply with the conditions of its permit to fly.
- 3) The exemptions at paragraphs 1 and 2 only apply in relation to any such condition that prohibits the use of unleaded AVGAS UL 91 and to the extent that it does so. All other conditions remain in full force and effect.
- 4) This exemption shall have effect from the date hereof and will remain in force, unless revoked.

Ken Fontaine  
For the Civil Aviation Authority and the United Kingdom.

31 October 2012

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UK Civil Aviation Authority

Official Record Series 4, No. 947

### **Schedule 1 to Exemption No E3395**

- 1) Unleaded Avgas UL 91 is permitted for use in aircraft and engines that meet one of the following conditions:
  - a) The aircraft is already approved for operation with Avgas 100LL (according to ASTM D910, Def Stan 91-90, Mil-G-5572, GOST1012-72 or equivalent) and the engine manufacturer has deemed the use of unleaded Avgas UL 91 acceptable by means of Service Instruction or other published service information.
  - b) The airframe/engine combination is already approved to use unleaded Mogas RON 95 (MON 85) in accordance with Standard EN228:2008, or 80/87 Avgas provided that the engine does not require TEL for lubrication.
  - c) The aircraft is a microlight aeroplane within the definition of the Air Navigation Order 2009 (as amended) Article 255, having in force a valid Permit to Fly issued by the Authority or is conducting flight trials under an appropriate permission for the purposes of obtaining a Permit to Fly as a microlight aeroplane.

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# Appendix 1 Requirements Removed

## CAA Airworthiness Directives and Mandatory Requirements removed from CAP 747

The requirements removed from this CAP are listed below. Separate tables are used for aircraft, engines, propellers and equipment. Each table is arranged in alphabetical order of manufacturer.

The date in the last column of the table is the date of the amendment to CAP 747 that each AAD, Requirement or Concession was superseded or cancelled.

**NOTE:** The removal of the EASA ADs at Issue 3 of this publication is not recorded.

### 1 Requirements removed from Section 2, Part 1

#### 1.1 Aircraft

<b>AAD Number</b>	<b>Type/Model</b>	<b>Superseded/Cancelled by and date</b>
27-04-83	Agusta A109	Cancelled October 2005
008-05-85	Agusta Bell 47	Cancelled October 2005
002-01-97 Rev 1	Agusta Bell 206	Cancelled October 2005
001-02-96 Rev 1	Agusta Bell 206	Cancelled October 2005
026-04-83	Agusta Bell 206	Cancelled October 2005
001-10-97 Rev 2	Apex Aircraft (Avions Pierre Robin)	Cancelled June 2007
001-10-97 Rev 1	Apex Aircraft (Avions Pierre Robin)	001-10-97 Rev 2 May 2005
002-02-87 Rev 2	Apex Aircraft (Avions Pierre Robin)	002-02-87 Rev 3 May 2005
002-02-87 Rev 3	Apex Aircraft (Avions Pierre Robin)	2005-0028 December 2005
028-06-83 Rev 1	Apex Aircraft (Avions Pierre Robin)	2005-0027 December 2005
001-01-85	Ayres S2R Series	Cancelled June 2007
002-09-1984	BAe 146	G-2005-0020 6 July 2005

1.1 **Aircraft (Continued)**

009-12-1987	BAe 146	G-2005-0020 6 July 2005
007-06-2003	BAe 146-100, 200 and 300 Series Aircraft and Avro 146-RJ70, RJ85 and RJ100	G-2005-0002 12 January 2005
G-2004-0007	BAe 146 and Avro 146-RJ	G-2004-0031 January 2005
002-05-2001	BAe 146 and Avro 146-RJ	G-2005-0018 6 July 2005
008-04-83 Revision 1	BAe 146 and Avro 146-RJ	G-2005-0015 13 July 2005
002-09-96	BAe 146 and Avro 146-RJ	Cancelled March 2006
003-07-95	BAe 146 and Avro 146-RJ	2007-0058 01 March 2007
044-09-89	BAe 146 and Avro 146-RJ	2007-0270 October 2007
G-2005-0015	BAe 146 and Avro 146-RJ	2007-0271 October 2007
G-2007-0270	BAe 146 and Avro 146-RJ	2007-0270 R1 November 2007
015-10-98	BAe 146 and Avro 146-RJ	2007-0305 20 December 2007
G-2005-0019	BAe 146 and Avro 146-RJ	2008-0092 May 2008
015-08-91	BAe 146 and Avro 146-RJ	2008-0168 02 September 2008
G-2005-0002	BAe 146 and Avro 146-RJ	2009-0070 April 2009
002-06-2000	BAe 146 and Avro 146-RJ	2009-0197 September 2009
G-2004-0020	BAe ATP Series Aircraft	G-2005-0031 October 2005
G-2005-0031	BAe ATP Series Aircraft	2007-0251 September 2007
047-09-1989	BAe ATP Series Aircraft	Cancelled 28 November 2008
021-04-1991	BAe ATP Series Aircraft	Cancelled 28 November 2008
003-11-2002	BAe HP137 Jetstream Mk1, Jetstream Series 200, 3100 and 3200	G-2004-0029 20 December 2004
006-11-2000	BAe HP137 Jetstream Mk1, Jetstream Series 200, 3100 and 3200	G-2005-0011 19 April 2005
003-06-2003	BAe HP137 Jetstream Mk1, Jetstream Series 200, 3100 and 3200	G-2005-0012 20 April 2005

## 1.1 Aircraft (Continued)

006-02-2003	BAe HP137 Jetstream Mk1, Jetstream Series 200, 3100 and 3200	G-2006-0003 February 2006
G-2004-0029	BAe HP137 Jetstream Mk1, Jetstream Series 200, 3100 and 3200	2009-0135 June 2009
G-2005-0011	BAe HP137 Jetstream Mark 1, Jetstream Series 200, 3100 and 3200	2006-0087 April 2006
G-2005-0010	BAe HP137 Jetstream Mark 1, Jetstream Series 200, 3100 and 3200	2006-0343 November 2006
G-2004-0024	BAe Jetstream Series 3200	2007-0074 March 2007
002-05-97	BAe Jetstream 4100	G-2005-0022 17 August 2005
007-04-2002	BAe Jetstream 4100	G-2004-0023 22 September 2004
005-03-97	BAe Jetstream 4100	2007-0056 01 March 2007
G-2004-0023	BAe Jetstream 4100	G-2005-0005 February 2005
G-2005-0005	BAe Jetstream 4100	2006-0088 April 2006
G-2004-0003	BAe Jetstream 4100	2006-0131 May 2006
2060 PRE 80	Beagle B.121 Pup Aircraft	G-2005-0030 12 October 2005
006-11-79	Beech 60	Cancelled June 2007
007-11-79 Rev 3	Beech 200 Series	Cancelled June 2007
085-11-78 Rev 1	Beech Series	Cancelled June 2007
002-01-97 Rev 1	Bell 206	Cancelled October 2005
001-02-96 Rev 1	Bell 206	Cancelled October 2005
0937 PRE 78	Bell 206	Cancelled October 2005
002-08-2000	Bell 212	Cancelled October 2005
003-07-87	Bell 212	2006-0173 June 2006
023-04-83	Bell 222	Cancelled October 2005
017-06-80	Boeing 747 Series	Cancelled June 2007

## 1.1 Aircraft (Continued)

011-12-82	Bolkow (Daimler Chrysler) 209	Cancelled October 2005
012-12-82	Bombardier (De Havilland Canada) DHC-6 Twin Otter	Cancelled June 2007
001-11-81	Bombardier (De Havilland Canada) DHC-7	Cancelled June 2007
0467 PRE 78	Brantly (Hynes) Series	2006-0170 June 2006
G-2004-0014	Britten-Norman: BN2, BN2A, BN2B, BN2T, BN2T-4R, and BN2T-4S Islander Series	G-2004-0014 R1 August 2005
G-2005-0034	Britten-Norman: BN2, BN2A, BN2B, BN2T, BN2T-4R, and BN2T-4S Islander Series; BN2A-MkIII Trislander Series	2006-0143 June 2006
002-04-2002	Cessna	002-04-2002 R1 February 2005
042-09-89 Rev 1	Cessna 300/400 Series	Cancelled June 2007
012-08-78 Rev 3	Cessna 300/400 Series	Cancelled June 2007
003-11-79	Cessna 404	Cancelled June 2007
004-11-79 Rev 1	Cessna 414A	Cancelled June 2007
002-04-2002 R1	Cessna 421C	Cancelled June 2007
005-11-79 Rev 1	Cessna 421C	Cancelled June 2007
004-09-90	Cessna 425	Cancelled June 2007
002-02-2002	Cessna 425 and 441	Cancelled June 2007
002-06-93 Rev 1	Christen Industries (Pitts) S-1 and S-2 Series Aircraft	2005-0031 December 2005
011-01-83	Dassault Falcon	Cancelled October 2005
G-2005-0025	De Havilland Support Ltd: DH60 (all variants), DH83, DH85, DH87A and DH87B	Cancelled September 2007
G-2005-0033	De Havilland Support Ltd: DH84, DH89A (all series), DH90	Cancelled September 2007
002-03-98	De Havilland DH 60, DH 80, DH 82, DH 83, DH 85, DH 87, DH 94 and Queen Bee	Cancelled February 2009
2854 Pre 80	Douglas DC3 and Dakota	Refer to CAA AD 001/07/78
001-08-97 Rev1	Embraer Bandeirante EMB-110 Series	2007-0123 May 2007

## 1.1 Aircraft (Continued)

008-11-79 Rev 5	Embraer Bandeirante EMB-110 Series	Cancelled June 2007
010-02-81 Rev 3	Embraer Bandeirante EMB-110 Series	Cancelled June 2007
002-03-85 Rev 1	Enstrom Series	Cancelled October 2005
002-11-86	Enstrom Series	Cancelled June 2007
007-12-83 Rev 1	Enstrom F28 and 280	2006-0292 October 2006
001-07-85	Enstrom F28A and 280	2006-0172 R1 July 2006
G-2003-0002	Enstrom 480, Enstrom 480B	2006-0290 October 2006
010-12-82	Eurocopter Deutschland BO 105	Cancelled October 2005
012-04-82	Eurocopter France AS 332	Cancelled October 2005
002-10-2001 Rev 2	Eurocopter France AS 350	Cancelled October 2005
012-11-82	Eurocopter France AS 350	Cancelled October 2005
011-04-82	Eurocopter France AS 355	Cancelled October 2005
003-10-2001 Rev 2	Eurocopter France AS 355	EASA AD 2010-0023 March 2010
009-11-82	Eurocopter France SA 315B	Cancelled October 2005
010-11-82	Eurocopter France SA 330 Puma	Cancelled October 2005
011-11-82	Eurocopter France SA 341	Cancelled October 2005
013-11-82	Eurocopter France SA 365	Cancelled October 2005
008-11-82	Eurocopter France SE 3130, SE 313B, SA 3180, SA 313 B/C	Cancelled October 2005
034-06-83	Eurocopter France SE 316 / SA 319 Alouette	Cancelled October 2005
005-12-90	FFA AS 202 Bravo Series	Cancelled June 2007
017-03-90 Rev 1	Gulfstream Aerospace 112 and 114	Cancelled December 2005
006-09-87	Gulfstream Aerospace G-159	Cancelled June 2007

## 1.1 Aircraft (Continued)

0527 PRE 78 Rev 2	Gulfstream American AA-1 Series and Gulfstream Aerospace AA-5 Series	2005-0036 January 2006
002-02-2000 Rev 1	Hughes (Schweizer) 269 Series	2006-0171 June 2006
G-2008-0005	MD Helicopters Inc. (MDH): MD900 (902 configuration)	G-2008-0005 R1 December 2008
008-11-93	Pilatus Britten-Norman BN-2, BN-2A, BN-2B and BN-2T Islander Series	Cancelled April 2008
010-07-80	Pilatus Britten-Norman BN-2, BN-2A, BN-2B and BN-2T Islander Series	Cancelled April 2008
010-10-91	Pilatus Britten-Norman BN-2, BN-2A, BN-2B and BN-2T Islander Series	Cancelled April 2008
0634 PRE 80	Pilatus Britten-Norman BN-2, BN-2A, BN-2B and BN-2T Islander Series	Cancelled July 2008
006-11-92	Pilatus Britten-Norman BN-2A Mk III Trislander Series	Cancelled April 2008
012-07-80	Pilatus Britten-Norman BN-2A Mk III Trislander Series	Cancelled April 2008
013-07-80	Pilatus Britten-Norman BN-2A Mk III Trislander Series	Cancelled April 2008
0665 PRE 80	Pilatus Britten-Norman BN-2A Mk III Trislander Series	Cancelled April 2008
001-08-98	Piper PA-28 and PA-32	2005-0032 December 2005
001-05-2000	Piper PA-28 and PA-32	2005-0034 January 2006
002-06-99	Piper PA-28 and PA-32	2005-0035 January 2006
002-02-79	Piper PA 31P	Cancelled June 2007
001-02-79	Piper PA 31 and 31-325	Cancelled June 2007
091-11-78 Rev 1	Piper PA 31-350	Cancelled June 2007
012-03-81	Piper PA 36-375	Cancelled June 2007
009-04-84	PZL-104 Wilga	Cancelled October 2005
014-08-90	Raytheon HS 125 and Hawker Series	2006-0063 March 2006
1609 PRE 80	Raytheon HS 125 and Hawker Series	2006-0062 March 2006
002-10-94	Robinson R22 Series	2006-0167 June 2006



1.1 **Aircraft (Continued)**

003-10-94 Rev 1	Robinson R44 Series	2006-0166 June 2006
009-06-2003	Short Brothers plc: DC3-60	G-2005-0013 24 May 2005
0434 PRE 80	Short Brothers plc: SC7 Skyvan Series 3, 3A and 3M	2006-0190 31 July 2006
G-2004-0021 R1	Short Brothers SD3-30, SD3-60, SD3-Sherpa and SD3-60 Sherpa	2006-0198 July 2006
G-2004-0032	Short Brothers SD3-60	G-2005-0013 June 2005
G-2005-0021	Short Brothers SD3-60	G-2006-0001 January 2006
G-2004-0005	Short Brothers SD3-60	G-2004-0005 Cor. January 2007
G-2005-0013	Short Brothers SD3-60	2007-0107 April 2007
003-03-83	Socata TB Series	Cancelled June 2007
004-03-94	Slingsby T67 Series	2009-0013 February 2009
005-05-87	Slingsby T67 Series	2009-0013 February 2009
006-02-96	Slingsby T67 Series	2009-0013 February 2009
007-08-96	Slingsby T67 Series	2009-0013 February 2009
012-01-97	Slingsby T67 Series	2009-0013 February 2009
013-11-85	Slingsby T67 Series	2009-0013 February 2009
014-01-93	Slingsby T67 Series	2009-0013 February 2009
015-03-94	Slingsby T67 Series	2009-0013 February 2009
001-12-2002	Slingsby T67 Series	G-2005-0004 18 January 2005
002-08-2001	Victa Airtourer 100 and 115	Combined with AESL and Glos Air Airtourer page June 2005

## 1.2 Engines

<b>AAD Number</b>	<b>Type/Model</b>	<b>Superseded/Cancelled by and date</b>
001-02-99	General Electric Engines	2004-0007 February 2005
004-10-97	Pratt & Whitney Engines	2008-0008 R1 February 2005
002-01-98 Rev 1	Pratt & Whitney Engines	Cancelled October 2005
003-06-95	Pratt & Whitney Engines	Cancelled October 2005
0238 PRE 80	Rolls-Royce Avon - All Marks	Cancelled 1 December 2004
0239 PRE 80	Rolls-Royce Avon - Compliance required as called for in Alert Service Bulletin Av 72-381	Cancelled 1 December 2004
0244 PRE 80	Rolls-Royce Avon 524B, 524C, 525B and 525C (Comet installations) and Avon 527B, 531B, 532R-B and 533R (Caravelle installations)	Cancelled 1 December 2004
0245 PRE 80	Rolls-Royce Avon 524B, 524C, 525B and 525C, 527B, 531B, 532R-B and 533R	Cancelled 1 December 2004
0241 PRE 80	Rolls-Royce Avon 524B, 524C, 525B, 525C, 527B, 531B, 532R-B and 533R	Cancelled 1 December 2004
0242 PRE 80	Rolls-Royce Avon 524B, 524C, 525B, 525C, 527B, 531B, 532R-B and 533R	Cancelled 1 December 2004
0240 PRE 80	Rolls-Royce Avon 524B, 525B, 527, 527B and 531B	Cancelled 1 December 2004
0237 PRE 80	Rolls-Royce Avon 524B, 525B, 527, 527B, 531B, 532R-B and 533R	Cancelled 1 December 2004
0243 PRE 80	Rolls-Royce Avon 531B, 532R-B and 533R	Cancelled 1 December 2004
003-12-99	Rolls-Royce RB211	G-2004-0027 19 November 2004
008-03-97	Rolls-Royce RB211	2009-0219-CN 19 October 2009
G-2003-0006	Rolls-Royce RB211-22B	G-2003-0006 Cor. January 2005
004-01-2000	Rolls-Royce RB211-22B	G-2005-0003 24 January 2005
005-07-1995	Rolls-Royce RB211-524	G-2003-0011 1 October 2003
006-04-2002	Rolls-Royce RB211-524	G-2005-0008 8 March 2005
G-2006-0002	Rolls Royce RB211-524	G-2006-0002 Cor. February 2006

1.2 **Engines (Continued)**

G-2005-0028	Rolls-Royce RB211-524, -535E4, -535C	G-2005-0028 R1 October 2005
G-2005-0007	Rolls-Royce RB211 Trent 500	G-2005-0007 R1 July 2005
G-2005-0029	Rolls-Royce RB211 Trent 500	G-2005-0029 Cor. October 2005
G-2005-0007 R1	Rolls-Royce RB211 Trent 500	G-2005-0007 R1 Cor. January 2006
G-2005-0029	Rolls-Royce RB211 Trent 500	2009-0103 May 2009
G-2003-0014	Rolls-Royce RB211 Trent 768-60, 772-60, 772B-60	G-2004-0010 8 April 2004
G-2003-0016	Rolls-Royce RB211 Trent 768-60, 772-60, 772B-60	G-2004-0016 29 June 2004
001-02-2001 and G-2003-0015	Rolls-Royce RB211 Trent 875, 877, 884, 884B- 17, 892, 892B, 895	G-2004-0008 29 April 2004
001-05-2003	Rolls-Royce RB211 Trent 875, 877, 884, 884B- 17, 892, 892B, 895	Cancelled 30 June 2004
002-08-2002	Rolls-Royce RB211 Trent 875, 877, 884, 892, 892B and 895	2006-0239 9 August 2006
002-01-2003	Rolls-Royce RB211 Trent 875-17, 877-17, 884-17, 884B-17, 892-17, 892B-17 and 895-17	2007-0003 January 2007
G-2005-0016	Rolls-Royce RB211 Trent 768-60, 772-60, 772B-60	G-2005-0016 R1 October 2005
G-2005-0016 R1	Rolls-Royce RB211 Trent 768-60, 772-60, 772B-60	2005-0024 October 2005
G-2004-0010	Rolls-Royce RB211 Trent 768-60, 772-60, 772B-60	2007-0206 August 2007
G-2004-0016	Rolls-Royce RB211 Trent 768-60, 772-60, 772B-60	2006-0355 December 2006
G-2004-0015	Rolls-Royce RB211 Trent 875-17, 877-17, 884-17, 884B-17, 892-17, 892B-17, 895-17	G-2004-0030 January 2005
G-2004-0009	Rolls-Royce RB211 Trent 875-17, 877-17, 884-17, 884B-17, 892-17, 892B-17, 895-17	2009-0071 April 2009
004-07-99	Rolls-Royce Tay 650	Cancelled 22 March 2005
001-01-2002	Rolls-Royce Tay 650-15	Cancelled 8 December 2004
025-04-89	Rolls-Royce Tyne 522	Cancelled September 2009
004-06-2000 Rev 1	Teledyne Continental Motors Engines	2004-0006 February 2005

### 1.3 Propellers

AD Number	Type/Model	Superseded by / Cancelled and date
004-05-91	British Aerospace/Hamilton Standard Propellers: 6/5500/F-1, fitted to BAe.ATP aircraft	FAA AD 93-06-06 February 2012
003-11-2001	Dowty Propellers: R334/4-82-F/13	G-2005-0027 8 September 2005
G-2005-0027	Dowty Propellers: R334/4-82-F/13	2009-0147 July 2009
006-10-99	Dowty Propellers: R389/4-123-F/25, -F/26 and -F/27	2009-0005 30 January 2009
007-05-2000	Dowty Propellers: R408/6-123-F/17	2007-0208-CN 8 August 2007

### 1.4 Equipment

AAD Number	Type/Model	Superseded by / Cancelled and date
009-07-80	AP Precision Hydraulics applicable to all Pilatus Britten-Norman BN-2 and BN-2A aircraft (SB.135)	Cancelled April 2008
005-02-2000 Rev 2	Cory Connectors P/N CAMA 11W1P	Cancelled October 2005
005-12-85	Fairey Hydraulics applicable to all Pilatus Britten-Norman BN-2A, BN-2B and BN-2T Series aircraft (SB.170)	Cancelled April 2008
005-03-86	Fairey Hydraulics applicable to all Pilatus Britten-Norman BN-2A Mark III Series Trislander (SB.173)	Cancelled April 2008
001-01-2003	Honeywell MST 67A Mode 'S' transponders	2006-0269 September 2006
001-05-99	Installation of Helicopter Health and Usage Monitoring System	ANO 2005 Amdt 1/2007 April 2007
G-2003-0010	Lindstrand Balloons Ltd: Fuel Hoses	G-2008-0001 January 2008
002-12-99 Rev 2	Mode 'C' or Mode 'S' transponder system(s) using Gilham code altitude input	2006-0265 September 2006
001-09-96	Switches, Carling Part No. TA201TBW, Piper aircraft no. 47664-07, Grumman Part No. TB201-TB-W, B206 and Cessna Part No. S1824-1 or S2160-1	2006-0274 September 2006

## 2 Requirements removed from Section 2, Part 3

None at present.

### 3 Requirements removed from Section 2, Part 4

#### Cancelled Generic Requirements

GC No.	Title	Date of Cancellation
1	Unprotected Starter Circuits In Aircraft Not Exceeding 5700 kg (12,500 lb)	September 2005
2	Minimum Space for Seated Passengers	25 November 2014
3	Access to and Opening of Type III and Type IV Emergency Exits	25 November 2014
5	Airborne ILS (Localiser) VOR and VHF Communications Receivers - Improved FM Broadcast Interference Immunity Standards	October 2005
7	Continuing Structural Integrity of Aeroplanes Operated for the Purposes of Public Transport	June 2007
12	Fuel Tank Safety Review	August 2005
13	Flame Resistant Furnishing Materials	25 November 2014
14	Improved Flammability Test Standards for Cabin Interior Materials	25 November 2014
20	Fire Precautions – Aircraft Toilets	25 November 2014
21	Cargo Containment	25 November 2014
22	Galley Equipment	25 November 2014

### 4 Requirements removed from Section 2, Part 5

#### Cancelled Generic Concessions

GC No.	Title	Date of Cancellation
2	Use of Motor Gasoline (MOGAS) in Certain Light Aircraft	25 November 2014
3	Use of Filling Station Forecourt Motor Gasoline (MOGAS) in Certain Light Aircraft	25 November 2014
4	Use of Filling Station Forecourt Unleaded Motor Gasoline in Microlight Aircraft	25 November 2014
5	Use of Filling Station Forecourt Unleaded Motor Gasoline in Certain Light Aircraft	25 November 2014

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