

Part 14 **Standard Maintenance Practices**

Leaflet 14-0 Standard Maintenance Practices – Introduction

1 Introduction

- 1.1 Standard Maintenance Practices (SMPs) contained within this part are produced by the Survey Department in consultation, where necessary, with other Sections of the CAA. They are intended to give guidance and information to originators of maintenance schedules submitted for Approval and the holders of Approved Maintenance Schedules, in respect of the minimum maintenance requirements acceptable to the CAA for the subjects addressed.
- 1.2 Holders of Approved Maintenance Schedules should review and update their schedules, using the normal 'B' amendment procedure, to comply with applicable SMPs.
- 1.3 Upon publication of these SMPs the CAA will cease to issue 'A' amendments.

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Leaflet 14-9 Standard Clauses for Insertion in Maintenance Schedule Introductory Pages

The purpose of this Standard Maintenance Practice is to ensure that the introductory pages of Maintenance Schedules are reasonably consistent and, where applicable, include the following items. Minor variation in the wording is acceptable providing that the intention remains clear.

1 Annual Utilisation and Maintenance Review

- 1.1 In the preparation of this Maintenance Schedule Reference to meet the requirements of the Air Navigation Order (ANO) and British Civil Airworthiness Requirements (BCAR), the recommendations made by the constructors and manufacturers have been evaluated and, where appropriate, have been incorporated. It is agreed that it is a duty of the Operator or his contracted Maintenance Organisation that subsequent maintenance recommendations, including airworthiness information promulgated in Service Bulletins, Service Letters, etc., issued by the constructors and manufacturers, should be evaluated and, where appropriate, should be incorporated in this Schedule by approved amendment procedures.
- 1.2 The periods/frequencies of the maintenance tasks in this Schedule are generally based on an anticipated annual utilisation of flying hours and large variations in the annual utilisation of individual aircraft could invalidate the effectiveness of certain tasks. If the annual utilisation varies by more than 25% from that anticipated, the Operator accepts that he, or his contracted maintenance organisation, must review the maintenance tasks and periods with a view to making any necessary adjustments.
- 1.3 In addition to variations in utilisation, the data contained in this Schedule will be reviewed at least annually by the Operator, or his contracted Maintenance Organisation, to ensure that the detailed requirements continue to be valid in the light of operating experience.

2 Maintenance Schedule Applicability

This Maintenance Schedule is applicable only to the following aircraft:

Registration	Type	Serial No.

NOTE: Any changes in aircraft applicability must have prior approval by the CAA.

3 Flying Times

All periods in this Schedule quoted in 'hours flying' are to be calculated and recorded on a 'Take-Off to Touch-Down' basis.

4 Maintenance Schedule Approved as Alternative to CAA/LAMS/FW or CAA/LAMS/H

Maintenance Schedules for aircraft not exceeding 2730 kg MTWA are additionally required to include the Certification requirements contained in CAP 520 Light Aircraft Maintenance.

5 Certification of Maintenance

Attention is drawn to the necessity of ensuring that the appropriate Certification of Maintenance is completed. The requirements are specified in the CAA Approval Document and Endorsements relating to this Schedule.

6 Permitted Variations to Maintenance Periods

The periods prescribed by this Schedule may be varied subject to the conditions and limits contained in Appendix A to this SMP.

7 Airworthiness Directives and Manufacturer's Service Information

- 7.1 European Commission Regulation (EC) No. 2042/2003 Annex I requires Operators to institute a system for the assessment of continuing airworthiness information. This information will originate from the Responsible Authority of the State of Manufacture in the form of Airworthiness Directives (or documents of comparable intent) and from the manufacturer in the form of Service Bulletins, Letters, Information Leaflets, etc. resulting from In-Service experience.
- 7.2 Compliance with the mandatory requirements of the Responsible Authority of the country of origin must be achieved unless this requirement is varied by the CAA.
- 7.3 Continuing Airworthiness and other Service Information must be continuously evaluated by the Operator or the contracted Maintenance Organisation and, where necessary, appropriate action must be taken to amend the Maintenance Schedule.

8 Fatigue Lives and Mandatory Life Limitations

- 8.1 Structural 'fatigue' lives published by the manufacturer or by the CAA are mandatory for aircraft on the UK register (see also BCAR Section A and B). In the case of foreign products the CAA may vary the lives published by the manufacturer or itself publish a life, normally as a CAA Additional Airworthiness Directive.
- 8.2 All other life limitations classified as mandatory by the manufacturer must also be observed unless varied by the CAA.

9 Maintenance Practices and Procedures

The practices and procedures necessary to accomplish the requirements of this Schedule, or work resulting from its application, should be, as a minimum, to the standards recommended in:

- a) relevant Maintenance, Overhaul and Repair Manuals and where applicable
- b) Civil Aircraft Airworthiness Information and Procedures.

10 All Vital Points and Control Systems

- 10.1 Whenever inspections are made or work is undertaken on vital points in flying or engine control systems, a detailed investigation must be made on completion of the task to ensure that all tools, rags or any other loose articles which could impede the free movement and safe operation of the system(s) have been removed and that the system(s) and installation in the work area are clean and unobstructed.
- 10.2 If, as a result of the application of this Schedule, any part of either the main or any associated system is dismantled, adjusted, repaired or renewed, that part of the system(s) which has been disturbed shall be subjected to a duplicate inspection, with free movement, range, direction and tension checks and shall be certified in accordance with British Civil Airworthiness Requirements, Section A Chapter A6-2 or Section B Chapter B6-2 (A5-3).

11 Fuel System Contamination Checks

The following check must be made to establish that fuel systems are free from contamination:

Fuel system water drain checks are to be carried out at periods not exceeding 24 hours elapsed time and in accordance with Company instruction.

NOTE: The operator must be satisfied with the quality of all fuel taken on board his aircraft, particularly in respect of water contamination and monitor the supplier's quality performance.

12 Portable Valise Type Liferrafts

At the appropriate Overhaul Period ten percent of all liferafts installed in fleets using system bottle and release mechanism are to be inflated and tested. Ensure that deployment and inflation is satisfactory.

13 Area or Zonal Inspection

Where the term 'AREA' or 'ZONAL' is used in this Schedule, this is to be interpreted to mean that a general visual inspection is made for general condition, security and leaks in the structure, systems and components and their installation in the specified zone or area. The inspection must be of sufficient depth to establish that any significant deterioration is identified and rectified to ensure that the general quality/condition of the zone/area is satisfactory until the next higher inspection becomes due.

14 Inspection Standards

- 14.1 Unless otherwise stated, all inspection requirements are to be applied without removing an item from the aircraft or dismantling the item, group or sub-assembly unless dismantling is considered essential in order to ensure airworthiness. Where dismantling is required by this Schedule, this is stated against the item concerned.
- 14.2 All significant terms and abbreviations used within this Schedule to define each maintenance task are defined in accordance with the Type Certificate holder's definitions, current JAR, CAA BCAR definitions or, in the absence of formal definitions, those quoted in World Airlines Technical Operations Glossary.
- 14.3 The inspection standards applied to individual task inspections must meet the requirements of the Type Certificate holder's recommended standards and practices. In the absence of specific manufacturers guidance, refer to this CAP 562 (Civil Aircraft Airworthiness Information and Procedures) or FAA AC 43-13-1A Aircraft Inspection and Repair or other approved data, as appropriate.

15 Condition Monitored Maintenance/Reliability Programme

The method of data collection, analysis, corrective actions and reporting specified for the implementation of this programme is prescribed in the current Document 'CMM/Reliability Programme', which constitutes part of this Approved Maintenance Schedule.

Appendix A

PERMITTED VARIATIONS TO MAINTENANCE PERIODS

- 1 The Operator or their contracted Maintenance Organisation, may vary the periods prescribed by this Schedule provided that such variations are within the limits of subparagraphs a) to e) of this Appendix A.
- 2 Variations shall be permitted only when the periods prescribed by this Schedule (or documents in support of this Schedule) cannot be complied with due to circumstances which could not reasonably have been foreseen by the Operator or by the contracted Maintenance Organisation.
- 3 The decision to vary any of the prescribed periods shall be taken only by the Chief Inspector/Quality Manager or person of equivalent status on behalf of the Operator or the contracted Maintenance Organisation. Particulars of every variation so made shall be entered in the appropriate Log Book(s).

a) Items Controlled by Flying Hours

Period Involved	Maximum Variation of the Prescribed Period
i) 5000 flying hours or less	10%
ii) More than 5000 flying hours	500 flying hours

b) Items Controlled by Calendar Time

Period Involved	Maximum Variation of the Prescribed Period
i) 1 year or less	10% or 1 month, whichever is the lesser
ii) More than 1 year but not exceeding 3 years	2 months
iii) More than 3 years	3 months

c) Items Controlled by Landing/Cycles

Period Involved	Maximum Variation of the Prescribed Period
i) 500 landings/cycles or less	10% or 25 landings/cycles, whichever is the lesser
ii) More than 500 landings/cycles	10% or 500 landings/cycles, whichever is the lesser

- d) **Items Controlled by More Than One Limit.** For items controlled by more than one limit, e.g. items controlled by flying hours and calendar time or flying hours and landings/cycles, the more restricted limit shall be applied.

- e) **Items Already Subject to CAA Trial Extension Programme.** For an item already subject to an agreed CAA trial extension programme, the trial period may be varied by a maximum of 50 flying hours only provided that such a variation is not specifically excluded by the agreed trial extension programme.

NOTES: (1) CAA Airworthiness Notices may override these conditions.

(2) The variations permitted above do not apply to:

- (a) Those components for which an ultimate (scrap) or retirement life has been prescribed (e.g. primary structure of components with limited fatigue lives and high energy rotating parts or which containment is not provided). Details concerning all items of this nature are included in the manufacturer's documents or manuals.
- (b) Those periods included in the Maintenance Schedule which have been classified as mandatory by the CAA (see CAP 747 - Mandatory Requirements for Airworthiness).
- (c) The Annual Inspection periods for Schedules submitted as alternatives to Schedules Reference CAA/LAMS/FW or CAA/LAMS/H.

Leaflet 14-14 Cockpit Voice Recorder System Fairchild A100 Series

1 Introduction

- 1.1 This SMP establishes minimum requirements relating to maintenance tasks and their intervals for the Fairchild A100 Series Cockpit Voice Recorder (CVR) System. These requirements take account of the Component Maintenance Manual 23-70-01, 1 June 1984. Account is also taken of the lack of failure detection within the system other than that provided by the limited pre-flight test facility.
- 1.2 The maintenance intervals stated in this SMP are based on elapsed calendar time. These intervals should be interpreted as the maximum permissible periods between the maintenance tasks specified. Operators may submit Maintenance Schedules based on flight hours provided that fleet operating statistics show that the calendar time limits are unlikely to be exceeded.
- 1.3 Operators will need to review the results of their CVR sampling programme (see paragraph 8) and, where shown to be necessary, reduce maintenance intervals until an acceptable level of serviceability has been re-established. Such a review should be made annually and a report should be sent to the CAA.

Item	Equipment	Task	Maximum Interval	Interpretation
1	Cockpit Voice Recorder System	Operational check	Daily (pre-flight post-flight)	Confirm serviceability using TEST function on CVR controller (flight crew check).
2		Check/Functional Test	Not exceeding 6 months elapsed time	Inspect installation. Confirm, by means of the CVR controller monitor jack, proper recording on each voice channel from area microphone(s), receiver audio, sidetone, interphone, public address (if recorded) and boom microphone (including 'hot mike' function, i.e. interphone OFF). Confirm proper functioning of the inhibit logic for bulk erase.
3		Functional Test (helicopters only)	Not exceeding 12 months elapsed time	Confirm proper recording of data.
4	Cockpit Voice Recorder	Check	Not exceeding 24 months elapsed time	Remove CVR for inspection, cleaning of erase/recording heads and tape transport mechanism, replacement of worn parts, weighing of Thermopack insulation assembly and test as required by the Component Maintenance Manual.

Item	Equipment	Task	Maximum Interval	Interpretation
5	Ditching Sensor (Helicopters)	Check/Functional Test	Not exceeding 24 months elapsed time	<p>NOTES:</p> <p>1) Before cleaning is attempted, the quality of the recording already on the tape should be evaluated. Where indicated by the evaluation, appropriate maintenance should be performed on the aircraft from which the CVR was removed.</p> <p>2) The Component Maintenance Manual lists various items which may need to be replaced between 7000 and 9000 equipment operating hours.</p> <p>Confirm proper sensor function. Test may be performed in situ if practical.</p>
6	Crash sensor (where fitted)	Check/Functional Test	As stated by the vendor	Comply with the instructions issued by the vendor.
7	Underwater Locator Beacon	Check/Functional Test	As stated by the vendor	Comply with the instructions issued by the vendor.
8	Cockpit Voice Recorder System	Sample check * in accordance with criteria and procedures agreed with CAA	As agreed between operator and CAA	Remove CVR immediately after flight. Replay and evaluate quality of in-flight recording.
<p>* NOTES: (1)</p>		<p>The objective of this sample check is to confirm the adequacy of maintenance and to detect any deterioration of recording quality, e.g. due to vibration, electrical interference, acoustic noise or intermittent defects.</p> <p>(2) Operators will need to submit, to the CAA, proposals for their CVR sampling programme. Account will need to be taken of route structure, number of aircraft in the fleet type, and their annual utilisation. See also paragraph 1.3.</p>		

Leaflet 14-15 Maintenance and Inspection of Crew Harnesses and Passenger Seat Belts (Metal to Metal Attachment)

1 Introduction

1.1 The following information may be used to establish a consistent CAA policy appertaining to the maintenance of seat belts and harnesses.

1.2 In the absence of manufacturer's recommendations the following conditions must be satisfied by an operator deciding to adopt the 'on-condition' philosophy in preference to load testing:

- a) A detailed visual inspection including the seat attachments for security of installation and integrity of fittings. Check for signs of distress, wear or biochemical staining at intervals not exceeding 6 months.
- b) Whenever seat belts or harnesses are removed for repair or re-conditioning, the requirements of CAA's Specification No. 1 – Safety Belts – as an example must be observed. (See Attachment.)

The CAA will accept the following values, depicted in the table below, as an acceptable sample of the work completed in respect of the maintenance of safety belts and harnesses:

Requirement	Sample
i) Application of design ultimate load subsequent to repair of seat belt/harness assembly.	1 % of batch or at least one assembly whichever is the greater.
ii) Following the application of the load defined in paragraph (i), the seat belt/harness assembly shall be subjected to the requirement of paragraph 5.4.1 of CAA Specification No. 1 in order to establish the buckle release load which shall not exceed 20 lbf.	

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Attachment to Leaflet 14-15

**United Kingdom
Civil Aviation Authority**

Specification No. 1

Issue 6

12 March 2004

Safety Belts

1 Introduction

- 1.1 Although this Specification was written originally for aeroplanes, a safety belt designed to this Specification is also acceptable to the CAA for use in a Rotorcraft.

2 Applicability

- 2.1 Safety belts shall comply with this Specification or with such other Specifications as the CAA may approve. Alternative Specifications, submitted for approval, shall provide at least the same amount of protection. FAA TSO C.22(f) is considered to be an acceptable specification provided that compliance with paragraphs 3.8, 4.2, 5.3, 5.4, 5.5 and 5.6 of this Specification is also demonstrated.
- 2.2 FAA TSO-C22g or JTSO-C22g qualified safety belts are considered acceptable for installation with no further consideration of the requirements of this Specification.
- 2.3 The installation of safety belts shall be done in accordance with the certification requirements for the aircraft.

3 Form

- 3.1 The belts shall be individual to a single occupant and shall be suitable in every respect for installation in an aeroplane for the purpose of restraining the wearer, without causing significant injury, against the ultimate inertia forces prescribed.
- 3.2 The correct method of using the belt shall be rapid and obvious.
- 3.3 Parts, made of metal or similar unyielding material, which come into contact with the wearer, shall be well rounded where necessary.
- NOTE:** Consideration should be given to the fact that the wearer does not remain in the normal sitting position during the application of the higher accelerations.
- 3.4 No part of a safety belt shall pass between the wearer's legs or shall appreciably restrict the movement of the wearer's limbs.
- 3.5 The belt shall, when correctly adjusted to the wearer, remain in position irrespective of variation of load.
- 3.6 Those parts of the belt which under the prescribed accelerations restrain, and are in contact with the wearer, shall be not less than 50 mm (2 in.) wide.

NOTE: However for belts not needing TSO approval an approved military belt 44 mm (1.75 in) minimum width which is otherwise acceptable will not be rejected by the CAA.

- 3.7 Those parts defined in paragraph 3.6 shall be such that the whole of the minimum width specified is effective in transmitting load from the parts to the wearer.
- 3.8 When correctly installed, the belt, when worn, shall lie across the groin of the wearer. The belt when so worn shall lie in a plane which is approximately at 45° to the plane of the longitudinal and lateral axes of the aeroplane.
- 3.9 Throughout this Specification, a belt is regarded as being divisible into various members (e.g. left strap, right strap, release mechanism, etc.) which are liable to be detached from each other for purposes of storage or replacement. It is further envisaged that more than one firm may be concerned in the manufacture of the completed belt; for example, a release box may be made by a different firm from that responsible for the webbing parts.

4 Strength

- 4.1 The certified strength of a belt is determined by the tests of paragraph 7.

- NOTES:**
- 1) The certified strength required of each member will depend upon the manner in which the belt is installed in the aeroplane and upon the emergency alighting accelerations appropriate to the particular aeroplane.
 - 2) The emergency alighting accelerations for a particular aeroplane type into which the belt is to be fitted may be determined in consultation with the aeroplane manufacturer. Alternatively the belt may be made sufficiently strong for it to be suitable in any aeroplane type. It is emphasised that greater strength will permit the belt to be certified as being capable of giving greater restraint, and this greater restraint may be of value in crash conditions.

- 4.2 The strength of belts with self-aligning and fittings, fitted in a normal forward-facing installation, however, may be designed for the loads prescribed in paragraph 4.3. The loads of paragraph 4.3 may not be used and the installation shall be conservatively represented in the tests as required by paragraph 7 if:

- a) When restraining an occupant, the vertical projection of the angle between any strap (at its attachment point) and the fore and aft axis of the aircraft exceeds 15°, or, if the end fittings are not self-aligning,

or

- b) The installation is not a forward facing seat installation.

- 4.3 For unit value of forward g the basis of certified strength required of a member is 670 N/g (150 lbf/g), this load shall be multiplied by the prescribed forward g for the aeroplane type. Safety belt attachment fittings shall have an additional strength factor of 1.33.

5 Means of Adjusting, Fastening and Releasing

- 5.1 The belt adjustment shall be either in the buckle or adjacent to it. The adjustment provided in this way shall be such as to suit all persons likely to use the belt. A separate action shall not be necessary to lock the means of adjustment.

- NOTE:** The load required to vary the adjustment, i.e. tighten or loosen the belt, should not exceed 134 N (30 lbf) and the design should be such that it is easy to operate.

5.2 The means of fastening and releasing shall be rapid and obvious and shall be of the metal to metal positive latching type. The design shall be such that the possibility of the means of locking, releasing or adjustment being jammed by loose clothing or by twisting of the belt, is extremely remote. The fastening means shall be designed to preclude incorrect latching by the wearer.

NOTE: Instructions may be marked on the belt to facilitate its use. However, the action should not be such as to demand instructions.

5.3 The wearer, shall be able to release the belt with either hand, regardless of aircraft orientation in an otherwise survivable accident without undue difficulty.

5.4 The force required to effect release from the belt shall be assessed when, after the belt has been subjected to a load as near as practical to the ultimate load (see paragraph 7.2.2), it is under a residual load of 1112 N (250 lbf).

5.4.1 Where a conventional lever operated release mechanism is used (i.e. one which can be grasped with all the fingers of one hand) the load to effect release under the conditions defined in paragraph 5.4 shall not exceed 90 N (20 lbf).

NOTE: In addition to the requirements of 5.4.2 it is also recommended that the minimum release load should not be less than 22.5N (5 lbf).

5.4.2 To avoid inadvertent release there shall be a free movement of the lever and the belt shall remain fastened until the lever attains an angle of not less than 70° or not more than 95° to its position at rest. The lever shall be spring loaded to the position it normally assumes when the belt is fastened.

NOTE: Release at a lever angle of less than 70° may be acceptable where the design is such that it can be demonstrated that the lever is unlikely to be caught and moved by clothing.

5.5 Where means of release other than by a conventional lever are employed the functional characteristics and release loads of such means shall be agreed with the CAA.

5.6 Where the positive locking action of the buckle is dependent upon a spring element, no single failure shall cause or permit the belt to release, unless an adequate fatigue life has been established.

NOTES: 1) A total of 100,000 cycles may be assumed as equal to 10 years of life.

2) It is recommended that the fastening and releasing mechanism should not embody parts which need to be manufactured and maintained to close tolerances for their satisfactory functioning.

5.7 The means of fastening shall be such that the responsible crew member will be able to see at a glance whether the belt is securely fastened or not.

5.8 Extension pieces shall be identified as to the type of belt with which they are to be used. Extension pieces shall be designed and tested to the same standards as are established for belts submitted in compliance with this Specification.

6 Materials and Processes

This paragraph 6 is applicable only to parts which contribute to strength, and to parts which are functionally important.

6.1 Only materials to a suitable approved specification¹, or obtained from a source approved by the CAA, shall be used.

- 6.2 Fittings shall be made of metal or of materials that have been demonstrated to be equally satisfactory for their intended function.
- 6.3 Materials which may deteriorate in service or materials the properties of which may be significantly affected by ambient conditions (e.g. leather) shall not be used.
- 6.4 Where such processes as soldering, brazing, welding and casting are used, suitable factors and safeguards acceptable to the CAA shall be employed. Primary load carrying castings shall comply with the requirements for critical castings.
- 6.5 The choice of materials and of protective treatments for those parts which cannot readily be inspected shall be such as to minimise the risk of corrosion or deterioration.
- 6.6 Materials shall be flame resistant to the appropriate standard defined in the certification basis of the aircraft.

7 Tests

7.1 General

Each member shall be tested in a manner which is agreed by the CAA to represent adequately the conditions of the installation. Accurate representation may be necessary for cases where unusual geometry or eccentricity of loading could affect the ultimate load or the functioning of the means of release. Tests shall be arranged so that the friction effects in the test apparatus do not significantly relieve the stress in any member under test.

The load in a member shall be taken as the load applied to the end nearest to the point of attachment to the airframe or seat.

7.2 Prototype Belts

- 7.2.1 Each member shall be tested to the ultimate load: the member will be accepted if each part supports the load required of it without significant slipping of any adjusting mechanisms it may include.

NOTE: If, at the point during this test when one half of the certified strength is reached, an inspection is made of those members utilising webbing or similar material in a load-bearing capacity, it may be possible to obtain some confirmation whether or not it will be possible to carry out the production test of 7.3.2.1 without damage to otherwise satisfactory series belts.

- 7.2.1.1 The load to be applied shall be that of paragraph 4.3 multiplied by a factor of 1.2. Where significantly new designs are being tested the CAA may require more than one specimen to be tested.
- 7.2.2 Compliance with the requirements of paragraph 5.4 shall be demonstrated by tests in which the release mechanism is first loaded by means of the members normally assembled to it, to as near as is practical to the ultimate load of the belt (in no case to less than its certified strength). The load shall then be reduced to not less than that prescribed in paragraph 5.4, and the release mechanism operated. The force required to operate it shall be assessed and shall be such that it can be applied without difficulty by a wearer of the belt. This test shall be made for each combination of loads liable to be critical.

1. British Standards Specifications issued by the British Standards Institution and D.T.D. Specifications obtainable from HMSO are approved. Other specifications will be approved by the CAA if, in its opinion, materials accepted as complying with these Specifications have the essential properties assumed in the technical investigation associated with the design approval.

7.3 Series Belts

7.3.1 General

Series belts shall be checked for consistency with that of the prototype by means of the tests prescribed in paragraph 7.3.2.

NOTE: These tests may be modified, in consultation with the CAA, having regard to the particular design and to the results of tests made in accordance with paragraph 7.2. Where experience gained with the production of the particular design shows such test to be unnecessary, the CAA may agree to waive the test requirements of paragraphs 7.3.2.1 and 7.3.2.2 provided that an adequate sample of each production batch is tested in accordance with paragraph 7.3.2.3.

7.3.2 Schedule of Tests

7.3.2.1 Each member, in which webbing or similar material is used in a load-bearing capacity, shall be loaded to not less than one-half of its certified strength. Under these conditions no sign of incipient failure shall be exhibited.

7.3.2.2 Each member incorporating a release mechanism shall be loaded to not less than one-half of its certified strength. The load may then be reduced to not less than that appropriate to the item, as prescribed in paragraph 5.4 and the release shall be operated. Under these conditions the effort required for release shall be comparable to that agreed by the CAA, in the light of tests carried out in accordance with paragraph 7.2.2.

7.3.2.3 The ultimate strength as prescribed in paragraph 7.2.1.1 shall be verified by tests to destruction on samples taken at random by the manufacturer, the percentage of parts so tested being decided by the manufacturer, subject to any minimum which may be prescribed by the CAA.

7.4 **Reconditioned Belts.** Reconditioned belts shall be subjected to tests similar to those prescribed in paragraphs 7.3.2.1 and 7.3.2.2, or, in agreement with the CAA, 7.3.2.3 on a sampling basis.

8 Compass Safe Distance

Where magnetic material is used the compass safe distance shall be not greater than 305 mm (12 in.) (i.e. the belt when at a distance of 305 mm (12 in.) from the compass shall not affect the compass readings by more than 1°). (See British Standard G.100 for further details.)

9 Marking

Each normally detachable member of a belt certified as complying with this Specification shall be indelibly marked with:

- the manufacturer's approved inspection mark,
- the part number and/or model number,
- the serial or batch number.

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Leaflet 14-17 N15F210B Underwater Locating Beacon

- 1** This SMP has been raised to implement the results and recommendations of Dukane, in respect of their N15F210B Underwater Locating Beacon.
- 2** Dukane's ongoing reliability programme has identified a significant age related reduction in the output of beacons that are greater than 12 years of age. The reduced acoustic output will have a detrimental effect on being able to locate the beacon and its associated flight recorder.
- 3** **Action to be Taken**

Underwater Locating Beacon:	N15F210B
Serial Nos 1 thro 14500	Remove from service at the time of their next battery change.
Any one or two letters before the Serial No.	Manufactured after 1978 and are not immediately affected.
Serial Nos 14500 thro C5500 to include all Serial Nos with 5 digits and Serial Nos with one letter plus 4 digits.	Receive one more battery change and then be removed from service at the following battery change.
- 4** The N15F210B beacon, when removed from service can be returned to Dukane for refurbishment and recertification.
- 5** A new DK100 beacon can be purchased from Dukane to replace each N15F210B beacon removed from service.
- 6** Exclusions – Attached are two Appendices listing N15F210B Beacons by Serial Numbers which were built prior to 1979 and from 1979 to 1983 which have since been refurbished with the new potting material and are, therefore, not affected.

Refurbished N15F210B Beacons – Prior to 1979

715	1304	2314	4086	6805	13266
717	1322	2334	4118	6983	13268
738	1343	2418	4168	7005	13280
804	1375	2488	4175	7073	13402
805	1401	2563	4187	7109	13509
844	1446	2566	4283	7130	13535
846	1496	2617	4292	7138	13559
847	1515	2626	4372	7158	13578
849	1526	2653	4373	7176	13582
858	1534	2747	4418	7347	13706
861	1566	2770	4423	7354	13718
878	1587	2873	4447	7357	13900
879	1595	2882	4453	7395	13932
887	1602	2908	4475	7821	14098
888	1607	2939	4640	8186	14448
892	1615	2957	4729	6174	14450
893	1620	2991	4759	8441	
896	1627	3044	4787	8842	
906	1634	3071	4813	9088	
909	1698	3085	4629	10267	
912	1703	3066	4877	10442	
931	1730	3121	4885	10884	
943	1754	3125	4896	10947	
960	1771	3140	4910	10950	
975	1779	3158	4973	10985	
1005	1780	3169	5019	11096	
1041	1807	3176	5029	11097	
1043	1810	3185	5125	11130	
1045	1816	3334	5147	11326	
1082	1835	3367	5157	11343	
1084	1861	3386	5277	11398	
1086	1877	3390	5352	11421	
1112	1878	3466	5449	11425	
1135	1880	3522	5513	11433	
1156	1888	3546	5594	11472	
1169	1889	3557	5607	11473	
1177	1893	3560	5610	11705	
1187	1806	3570	5624	11707	
1191	1910	3667	5811	11786	
1210	1913	3727	5815	12177	
1217	1926	3797	5849	12396	
1223	1940	3806	6002	12423	
1246	1944	3824	6064	12657	
1249	1949	3840	6068	12763	
1255	1954	3845	6402	12784	
1257	1959	3647	6406	12892	
1265	2060	3874	6506	12901	
1278	2176	3893	6600	13112	
1284	2179	3910	6655	13128	
1297	2203	3935	6691	13170	
1302	2261	4006	6756	13258	

Refurbished N15F210B Beacons – from 1979 to 1983

14721	22925	B9224	C5368
14926	22985	B9277	
14998	23006	B9279	
15002	23089	B9265	
15019	23289	B9266	
15204	23416	B9325	
15249	23474	B9381	
15337	23520	B9508	
15651	23550	B9512	
15719	23576	B9812	
15754	23720	C0040	
15923	23989	C0080	
15930	24023	C0089	
16073	24095	C0120	
16226	24111	C0168	
16231	24113	C0183	
16356	24226	C0315	
16448	24277	C1150	
16662	24374	C1401	
16763	24520	C1738	
17065	24618	C1786	
17280	24754	C1874	
17376	24914	C1910	
17734	25005	C1916	
17856	25044	C1923	
17863	B5670	C2281	
18468	B5673	C2375	
18506	B5834	C2393	
18613	B7023	C2394	
18614	B7048	C2395	
18958	B7385	C3311	
19008	B7739	C3373	
19027	B7783	C3410	
19068	B8077	C3499	
19135	B8102	C3562	
19354	B8169	C3593	
19452	B8311	C3597	
19480	B8367	C3604	
19654	B8401	C3612	
20113	B8402	C3616	
20550	B8525	C3904	
20742	B8623	C4046	
20869	B8626	C4060	
20980	B8948	C4109	
21044	B9034	C4502	
21371	B9051	C4564	
21618	B9060	C4658	
21682	B9061	C5168	
22091	B9077	C5201	
22198	B9100	C5212	
22277	B9100	C5362	

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Leaflet 14-18 Air Cruisers Company Evacuation Systems

1 Introduction

- 1.1 This Standard Maintenance Practice is intended to highlight the recommendations for periodic hydrostatic proof pressure testing of inflation hoses fitted to Air Cruisers Company Equipment.

2 Recommendations

- 2.1 It is recommended that hoses be hydrostatically proof pressure tested and inspected as listed below:

Hoses Age	Hydrostatically Proof Pressure Testing
0–8 Years Old	Every 3 Years
9–12 Years Old	Every 18 Months
12 Years Old and Onwards	Every Year

- 2.2 These recommendations should be initiated at the earliest opportunity and included in the appropriate Maintenance Schedule.

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Leaflet 14-19 Maintenance of Aircraft not Operated for Commercial Air Transport

1 Introduction

- 1.1 The purpose of this Standard Maintenance Practice is to identify the maintenance requirements for aircraft that are not operated for the purpose of commercial air transport. The maintenance of the aircraft including its engines, propellers and equipment (as applicable) shall be in accordance with the Type Certificate holder's inspection standards, recommended maintenance programme or schedule and the requirements of this SMP where the manufacturer's schedules may not encompass the additional maintenance items covered by this SMP.
- 1.2 It is the responsibility of the operator to ensure that this document is completed and submitted to the CAA Regional Office for approval.
- 1.3 The contents of this document shall not be amended without the approval of the Civil Aviation Authority except where changes only affect Appendix B.

2 Maintenance Programme Reference

Manufacturer's manual reference	Airframe	Engine	Propeller

Revision Status

NOTE: See also Appendix A for equipment etc.

2.1 Maintenance Schedule Applicability

Aircraft type	Aircraft registration(s)	Aircraft serial number(s)
.....
.....

3 Compliance Statement

The contents of this schedule and its associated appendices address the manufacturer's minimum maintenance requirements for the aircraft listed above.

Organisation/ Person Signature Date
Operator

CAA Use Only

CAA Schedule Approval Reference. MS/..... CAA Stamp

4 Annual Utilisation and Maintenance Review

4.1 In order to meet the requirements of the Air Navigation Order (ANO), British Civil Airworthiness Requirements (BCAR) and Joint Aviation Requirements (JAR) where appropriate, the recommendations made by the manufacturers as amended, have been evaluated and where appropriate are included. It is the duty of the operator or his contracted maintenance organisation to ensure that subsequent maintenance recommendations, including airworthiness information promulgated in Airworthiness Directives, Service Bulletins, Service Letters, Maintenance Manuals, and other regulatory material as issued by the State of Manufacture or the United Kingdom CAA, are evaluated for applicability to this approved schedule.

4.2 **Anticipated annual utilisation (flying hours)/ (flight cycles).**

If the annual utilisation varies by more than 25% from that anticipated, the operator accepts that he, or his contracted maintenance organisation, must review the maintenance tasks and periods with a view to making any necessary adjustments.

NOTE: If the manufacturer produces a special utilisation (e.g. low utilisation) or a schedule based on a specific annual utilisation then this must be used. If this does not align with the anticipated annual utilisation stated above, then the operator accepts that he, or his contracted maintenance organisation, must review the maintenance tasks and periods with a view to making any necessary adjustments.

5 Pre-Flight Inspections

These checks are to be carried out in accordance with the aircraft flight or operations manual, or as specified in the manufacturer's maintenance schedule.

6 Tyre Maintenance

Tyre reliability is dependant on regular checks being carried out. The pre-flight inspection should include a check of the tyres for condition and correct inflation.

NOTE: For large transport aircraft with multi wheel installations see CAP 562 - CAAIP Leaflet 11-22 Appendix 32-2.

7 Avionic Installations

7.1 In the absence of the aircraft manufacturer's maintenance requirements for Radio Navigation and Communication equipment, and Radar equipment, an appropriate programme of maintenance shall be included.

7.2 Compass systems will require check swings at periods not exceeding;

- i) for aircraft of 5700 kg MTWA or below, 2 years.
- ii) for aircraft above 5700 kg MTWA, 3 years.

Where the aircraft system uses an inertial reference system which can be used to cross check compass error in flight, this requirement may be varied subject to approval by the CAA.

8 CVR/FDR

Where required by the ANO as amended, or JAR–OPS as appropriate.

- 8.1 Maintain in accordance with the equipment manufacturer's recommendations. In the absence of any specific recommendation the CAA should be contacted for guidance related to the specific installation.
- 8.2 The Operator shall in all cases comply with the requirements of the ANO 2005 (as amended), Article 62(2)(b) by providing a data record for retention purposes every 12 months.

9 Battery Capacity Check

Routine capacity checks should be carried out in accordance with manufacturer's instructions and periods where specified; or the following periods shall apply.

Lead acid Battery – 3 months.
Ni-Cad Battery – 4 months.

10 Safety Equipment

Where the aircraft is required to carry safety equipment this should be checked for serviceability at regular intervals. Overhaul and retirement periods are those specified by the equipment manufacturer.

11 Modifications to Aircraft

- 11.1 Where equipment has been fitted to the aircraft after original manufacture, e.g. autopilots, flight directors etc., the Supplementary Maintenance Appendix A, is required to be amended to take into account the equipment manufacturer's requirements.
- 11.2 Where the aircraft structure has been modified from the original design standard, this must be taken into account when assessing the maintenance requirements.

12 Fatigue Lives and Mandatory Life Limitations (Including Engines)

All fatigue lives and mandatory life limits published by the manufacturer or by the CAA shall be complied with. In the case of foreign products, the CAA may vary the lives published by the manufacturer or itself publish a life, normally as a CAA Additional Airworthiness Directive.

13 Corrosion of Aircraft Structures

Where the manufacturer makes no specific reference to corrosion control programmes, this should be taken into account when inspecting for condition. The assessment may require adjustment of maintenance programme periods. The application of corrosion inhibitors during maintenance may significantly improve the durability of the airframe.

14 Supplementary Maintenance Appendix

The attached Supplementary Maintenance Appendix A, should contain the equipment manufacturer's maintenance requirements, a list of reference material including equipment manuals, service bulletins (SB), STCs, modifications etc. and any life limitations.

The attached Supplementary Maintenance Appendix B, should contain Maintenance Tasks arising from SBs, SLs, and other service information as required by the operator.

15 Certification of Maintenance

15.1 The certificate of release to service for checks carried out in accordance with the manufacturer's programme, should cross refer to the CAA Maintenance Schedule Approval reference number.

15.2 An annual review of the maintenance shall be completed. The review shall as a minimum, include the following items:

1. Confirmation of mandatory modification, ADs and inspection status.
2. Audit of aircraft records.
3. Conformity with CAA approved maintenance schedule.
4. Conformity with CAA approved aircraft radio installation (AC968NR).
5. Review of outstanding deferred defects.
6. Evaluate the effectiveness of the maintenance schedule in addressing the maintenance needs of the aircraft.
7. Review of aircraft and equipment life limits.

15.3 On successful completion of the annual review the following statement shall be made in the Aircraft Log Book.

Annual review carried out in accordance with:

CAA APPROVED MAINTENANCE SCHEDULE REF: _____

Signed: _____ Approved Organisation Ref: _____

This certification shall be made in accordance with the requirements of the AD271, Schedule Approval Document.

16 Permitted Variations to Maintenance Periods

The periods prescribed by the manufacturer may be varied subject to the conditions and limits contained in Appendix C to this SMP.

17 Inspection Standards

17.1 Unless otherwise stated, all inspection requirements are to be applied without removing an item from the aircraft or dismantling the item, group or sub-assembly

unless dismantling is considered essential in order to ensure airworthiness. Where dismantling is required by this Schedule, this is stated against the item concerned.

- 17.2 All significant terms and abbreviations used within this Programme to define each maintenance task are defined in accordance with the Type Certificate holder's definitions, current JAR, CAA BCAR definitions or, in the absence of formal definitions, those quoted in World Airlines Technical Operations Glossary.
- 17.3 The inspection standards applied to individual task inspections must meet the requirements of the Type Certificate holder's recommended standards and practices. In the absence of specific manufacturers guidance, refer to CAA CAP 562 Civil Aircraft Airworthiness Information and Procedures or FAA AC 43-13-1A Aircraft Inspection and Repair or other approved data, as appropriate.

**Supplementary Appendix A
(Equipment Manufacturer's Maintenance Requirements, Life Limits not covered by the Manufacturer's Maintenance Programme as set out in SMP19 paragraph 2)**

DATE ENTERED	SYSTEM	DETAIL	REFERENCE INFORMATION

Signature of person submitting page

.....

CAA Approval and Date

.....

**Supplementary Appendix B
 (Additional Maintenance Required by the Operator in the form of SBs, SLs and other Service Information)**

DATE ENTERED	SYSTEM	DETAIL	REFERENCE INFORMATION

Signature of person submitting page

.....

.....

Supplementary Appendix C

Permitted Variations to Maintenance Periods

- 1 The operator or their contracted Maintenance Organisation, may vary the periods prescribed by this Schedule provided that such variations are not included in the manufacturer's programme within the limits of sub-paragraphs 3 a) to d) of this Appendix C.
- 2 Variations shall be permitted only when the periods prescribed by the manufacturer cannot be complied with due to circumstances which could not reasonably have been foreseen by the Operator or by the contracted Maintenance Organisation.
- 3 The decision to vary any of the prescribed periods with the exception of the Annual Maintenance Review shall be taken only by the Chief Inspector/Quality Manager or person of equivalent status acceptable as a signatory for the prescribed check, on behalf of the Operator or the contracted Maintenance Organisation. Particulars of every variation so made shall be entered in the appropriate Log Book(s).

a) Items Controlled by Flying Hours

Period Involved	Maximum Variation of the Prescribed Period
------------------------	---

- | | |
|----------------------------------|------------------|
| (i) 5000 flying hours or less | 10% |
| (ii) More than 5000 flying hours | 500 flying hours |

b) Items Controlled by Calendar Time

Period Involved	Maximum Variation of the Prescribed Period
------------------------	---

- | | |
|---|---|
| (i) 1 year or less | 10% or 1 month, whichever is the lesser |
| (ii) More than 1 year but not exceeding 3 years | 2 months |
| (iii) More than 3 years | 3 months |

c) Items Controlled by Landing/Cycles

Period Involved	Maximum Variation of the Prescribed Period
------------------------	---

- | | |
|------------------------------------|--|
| (i) 500 landings/cycles or less | 10% or 25 landings/cycles, whichever is the lesser |
| (ii) More than 500 landings/cycles | 10% or 50 landings/cycles, whichever is the lesser |

- d) **Items Controlled by More Than One Limit.** For items controlled by more than one limit, e.g. items controlled by flying hours and calendar time or flying hours and landings/cycles, the more restricted limit shall be applied.

NOTES: 1) CAP 747 - Mandatory Requirements for Airworthiness may override these conditions .

- 2) The variations permitted do not apply to:

Those components for which an ultimate (scrap) or retirement life has been prescribed (e.g. primary structure or components with limited fatigue lives and high energy rotating parts of which containment is not provided).

Details concerning all items of this nature are included in the manufacturer's documents or manuals.

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Leaflet 14-20 Maintenance Programme Compliance Document (JAR-OPS 1)

Introduction

SMP20 addresses the requirements of JAR-OPS 1 for the approval of the Maintenance Programme.

The introductory section is for information purposes only and is not intended for inclusion in the Maintenance Programme submission. It also contains on page 4 an example of the required amendment (revisions) page required by the Appendix to AMC OPS 1.910 paragraph 3.

CAA Safety Regulation Group – Standard Maintenance Practice 20 Maintenance Programme Compliance Document (JAR-OPS 1)

Maintenance Programme Compliance Document (SMP 20)

The purpose of the attached Maintenance Programmes Compliance Document (MPCD) is to ensure that Maintenance Programmes submitted to the CAA for approval are standardised and include all items that are required by JAR-OPS 1.910 (a) and (b) and also other additional CAA National requirements.

The attached document includes all the relevant information as detailed in Appendix 1 to the Acceptable Means of Compliance (AMC) of JAR-OPS 1.910, the format of which may be modified to suit the operator's preferred method, but in all cases the content shall clearly show compliance with the requirement or shall be deleted if not applicable to the operator.

Compliance with the Maintenance Programme alone, does not obviate the need for the operator to ensure that at all times the aircraft and its equipment is maintained to a suitable programme that ensures compliance with the minimum operational requirements as follows:

- JAR-OPS subpart K, Instruments and Equipment.
- JAR-OPS subpart L, Communication and Navigation Equipment.
- Additional CAA National Requirements for Operational Approval – Certification Standards.
- Additional CAA National Requirements for Operational Approval – Maintenance Standards, including CAA Airworthiness Notices and CAA Standard Maintenance Practices.

The specific tasks and the relevant control procedures shall be included as specified in the Maintenance Programme (MP) or Maintenance Management Exposition/ Maintenance Organisation Exposition (MME/MOE) of the operator. The relevant cross references shall be specified at the appropriate paragraphs and the correct term MME or MOE shall be used. It is not acceptable to leave MME/MOE as the reference heading.

The MPCD contains the introduction, a Contents List, 5 Individual Sections and 2 Appendices:

Section 1 Maintenance Programme Preface details the specific JAR-OPS information that is required to be contained in the preface pages of the Maintenance Programme.

Section 2 details the content of the Operator's Certification Statement.

Section 3 identifies the Company procedures that are required to demonstrate compliance with JAR-OPS.

Section 4 is to address Additional UK Maintenance requirements.

Section 5 details the MME/MOE cross reference for the assessment of Airworthiness Directives that may be incorporated into the programme.

Appendix A sets out the CAA standard permitted variations to the maintenance periods that may be applied. These limitations shall be included in the MME/MOE as a procedure, the reference of which shall be quoted in Section 3 paragraph 3.10.

NOTE: These variations are not to be confused with a task escalation programme. (See Section 3 paragraph 3.2)

Appendix B lists the current UK CAA Specifications which must be addressed for inclusion in Section 4 paragraph 4.1.

Amendments to any part of the approved Maintenance Programme, including the MPCD shall be submitted to the CAA for approval in accordance with the procedures detailed in the operator's MME/MOE as appropriate.

In order to comply with the specific requirements of JAR-OPS the Inspection Standards applied shall be in accordance with the Type Certificate holder's recommendations detailed in the relevant Maintenance Manual or Maintenance Planning Document/Guide (MPD/MPG). In the absence of manufacturer's recommendations the standards to be applied shall be those agreed by the CAA. (Section 3 paragraph 3.10) In either case the standards that shall be applied to the approved Maintenance Programme must be advised to the JAR-145 organisation responsible for carrying out the scheduled maintenance.

Maintenance Programme Approval Procedures

The application form for the approval of a maintenance programme should be submitted to the appropriate Regional Office of the Survey Department (See CAP 455 - Airworthiness Notices, Airworthiness Notice (AN) No. 29, Appendix 2 for contact details). Receipt of the application form will be recorded and a copy shall be forwarded to the most appropriate local Regional Office. The approval process will be conducted and completed by the Regional Office, which will determine the sufficiency of the submission. However it will be necessary for the Compliance Statement programme/schedule and MME/MOE to be made available to the Regional Office. When satisfied that the programme/schedule complies with the requirements of JAR-OPS and CAA National Requirements, the AD 271 approval document will be issued. The Applications and Approvals Department will be advised of the programme approval by copy of the AD271.

Maintenance Programme Amendment Approval Submission

CAA Programme Ref: _____ Issue No: _____ Aircraft Type: _____

Operators. Programme Ref: _____ Issue Date: _____ Amendment No: _____

Item	Action to be taken	Justification	CAA Remarks
1 Introduction page A	Replace with new page dated	Introduction of new check cycle	
2 Introduction page B	Replace with new page dated	Introduction of Aircraft Registration G-	
3 Page 45 – Item E12	Replace with new page dated	Revision of forward and aft pressure bulkhead inspection requirements. In accordance with manufacturer’s latest requirements	

COMPLIANCE STATEMENT: This Maintenance Programme complies with the manufacturer’s minimum maintenance and inspection requirements and the requirements of the Civil Aviation Authority for the airframe, engines (on wing), systems and components except wherein previously or hereby Approved by the Civil Aviation Authority.

Signed: _____ Position: _____ Date: _____

Organisation: _____ on behalf of : _____

The above requested amendments are approved with the exception of: _____ Signed: _____ for the CAA

_____ Date: _____

1 Maintenance Programme Preface (Reference JAR AMC-OPS 1.910 (a) Appendix 1, paragraph 1.1.1, 1.1.2, 1.1.3, 1.1.6)

1.1 This Maintenance Programme is applicable to the following:

- Aircraft Type/Model:**
- Engine(s) Type:**
- APU Type:**
- Propeller Type:**
- Registration(s)**

1.2 Operator’s Name And Address

.....
.....
.....

1.3 The periods and frequencies of the maintenance tasks and inspections in this Programme

Reference....., Issue Number....., Date.....

are based on an annual utilisation of (flying hours). If the annual utilisation varies by more than 25% from that stated, the operator accepts that the Maintenance Programme shall be reviewed in order that any necessary adjustments to the maintenance tasks and periods may be made.

1.4 ¹This Maintenance Programme is derived from Maintenance Review Board Report:

Reference / Issue No. / Date

1.5 ¹This Maintenance Programme is based on the Type Certificate holder’s maintenance recommendations (MPD, MPG or Maintenance Manual) as follows:

Manufacturer’s Manual Reference:	Issue No.	Date
Airframe
Engine
APU
Propeller

2 Operator’s Certification Statement (Reference JAR AMC-OPS 1.910 (a) Appendix 1, paragraph 1.1.4)

In the preparation of this Maintenance Programme to meet the requirements of JAR-OPS Sub Part M, and the Air Navigation Order, the recommendations made by the airframe manufacturers and engine and equipment manufacturers have been evaluated and, where appropriate, have been incorporated.

1. Delete as applicable

This Maintenance Programme lists the tasks and identifies the practices and procedures which form the basis for the scheduled maintenance of the aeroplane(s) listed in paragraph 1.1. The operator undertakes to ensure that these aeroplanes will continue to be maintained in accordance with this programme.

In accordance with Procedure 3.1, the data contained in this programme will be reviewed for continued validity at least annually in the light of operating experience.

It is accepted that this programme does not prevent the necessity for complying with any new or amended regulation published by the CAA from time to time where these new or amended regulations may override elements of this programme.

It is understood that compliance with this programme alone does not discharge the operator from ensuring that the programme reflects the maintenance needs of the aeroplane, such that continuing safe operation can be assured. It is further understood that the CAA reserves the right to suspend, vary or cancel approval of the Maintenance Programme if the CAA has evidence that the requirements of the Maintenance Programme are not being followed or that the required standards of airworthiness are not being maintained.

Name Position:

Signed:

For and on behalf of operator:

Date:

NOTE: The postholder identified above is that person required by JAR-OPS 1.175 and identified in the MME/MOE.

3 Procedures

3.1 Programme Review (Reference JAR AMC-OPS 1.910 (a) Appendix 1, paragraph 5)

It is accepted that in addition to monitoring fleet utilisation, the data contained in this Programme will be reviewed at least annually by the operator to ensure that the detailed requirements continue to be valid in the light of operating experience, or on receipt of Type Certificate holder's recommendations, or revisions to the Maintenance Review Board Report that affect the maintenance needs of the aircraft. This review is in accordance with procedures set out in the MME/MOE, Chapter

3.2 Escalation Of Maintenance Programme Check Periods¹ (Reference JAR AMC-OPS 1.910 (a) Appendix 1, paragraph 1.1.7.)

Escalation of the check periods associated with the Maintenance Programme, where applicable, shall be controlled by procedures acceptable to the CAA. These procedures are detailed in the MME/MOE, Chapter

1. Delete if not applicable

3.3 **Pre-flight Maintenance Tasks**

(Reference JAR AMC–OPS 1.910 (a) Appendix 1, paragraph 1.1.9.)

Where applicable this Maintenance Programme includes details of all pre-flight maintenance tasks normally accomplished by maintenance staff and not those included in the Operations Manual for action by the flight crew.

3.4 **Certification Requirements And Definition Of Maintenance Tasks**

(Reference JAR AMC–OPS 1.910 (b) paragraph 1)

Where necessary the Maintenance Programme includes details of who may issue Certificates of Release to Service (CRS) in a particular case, and also defines which of the check cycles are considered as base maintenance.

See MME/MOE, Chapter

3.5 **Structural Inspection Programme**

(Reference JAR AMC–OPS 1.910 (a) Appendix 1, paragraph 1.1.12.)

This Maintenance Programme includes the requirements of the structural inspection programme and any associated sampling programme recommended by the manufacturer. ¹The procedures associated with the applicable sampling programme are detailed in the MME/MOE, Chapter

3.6 **Corrosion Control Programme**

(Reference JAR AMC–OPS 1.910 (a) Appendix 1, paragraph 1.1.13.)

This Maintenance Programme includes the corrosion control programme reference as recommended by the manufacturer with the control procedures as set out in the MME/MOE, Chapter

3.7 **Tasks Related To Mandatory Life Limitations, Certification Maintenance Requirements And Airworthiness Directives.**

(Reference JAR AMC–OPS 1.910 (a) Appendix 1, paragraph 1.1.16.)

The procedures for the assessment of Mandatory Life Limits are detailed in the MME/MOE, Chapter

Certification Maintenance Requirements (CMRs) applicable to aircraft maintained to this Maintenance Programme as listed in Document Reference are controlled and implemented in accordance with procedures as set out in the MME/MOE, Chapter¹

The procedures for the assessment and control of Airworthiness Directives are detailed in the MME/MOE, Chapter

3.8 **Engine Health Monitoring**

(Reference JAR AMC–OPS 1.910(a) Appendix 1, paragraph 1.1.17)

When the manufacturer's Maintenance Programme includes powerplant components that do not have a stated overhaul life or are subject to a condition monitored maintenance programme, the operator's procedures include the associated programme for the health monitoring of the associated powerplant(s).

¹The method of data collection, analysis, corrective actions and reporting specified for the implementation of the condition monitoring or reliability programme are prescribed in the MME/MOE, Chapter Reliability programme are prescribed in the MME/MOE Chapter..... and in the engine and APU programmed defined in 'engine/APU programme reference'.

1. Delete if not applicable

3.9 **Reliability Monitoring Of Aeroplane Equipment** (Reference JAR AMC–OPS 1.910(a) Appendix 1, paragraph 1.1.17)

When the manufacturer's Maintenance Programme includes components that do not have a stated overhaul life or are subject to a condition monitored maintenance programme, the operator's procedures include the associated programme for the reliability monitoring of the aeroplane equipment.

¹The method of data collection, analysis, corrective actions and reporting specified for the implementation of the condition monitoring or reliability programme are prescribed in the MME/MOE, Chapter

3.10 **Inspection Standards** (Reference JAR AMC–OPS 1.910 (a) Appendix 1, paragraph 1.1.18.)

²The standards applied to the individual task inspections meet the requirements of the Type Certificate holder's recommended standards and practices. These standards and any additional standards specified by the operator are as defined in the MME/MOE, Chapter

or if not defined

²The standards applied to the individual task inspections meet the requirements of the CAA recommended standards and practices. These standards and any additional standards specified by the operator are as defined in the MME/MOE, Chapter

3.11 **Abbreviations, Terms And Definitions** (Reference JAR AMC–OPS 1.910 (a) Appendix 1, paragraph 1.1.19.)

All significant terms and abbreviations used within this Programme to define each maintenance task are defined in accordance with the Type Certificate holder's definitions, current JAR, CAA BCAR definitions or, in the absence of formal definitions, those quoted in World Airlines Technical Operations Glossary.

A list of current terms and abbreviations are contained in Maintenance Programme Reference

3.12 **Permitted Variations To Maintenance Periods** (Reference JAR AMC–OPS 1.910 (a) Appendix 1, paragraph 4)

As set out in paragraph 4 of the AMC Appendix 1, Permitted Variations to Maintenance Periods, and with the approval of the CAA, the periods prescribed by this Programme may only be varied in accordance with the procedures, conditions and limits set as defined in the MME/MOE, Chapter

NOTE: Appendix A defines the CAA Permitted Variations.

4 **Additional UK Maintenance Requirements.** (Reference JAR AMC–OPS 1.910 (a) Appendix 1, paragraph 1.1.16.)

4.1 **Standard Maintenance Practices**

4.1.1 **Aircraft Battery Capacity Checks**

Aircraft batteries shall be maintained in accordance with the manufacturer's recommendations. In the absence of any manufacturer's instructions the following periods apply.

1. Delete if not applicable
2. Delete as applicable

- a) Lead acid Battery – not exceeding 3 months.
- b) Ni-Cad Battery – not exceeding 4 months.

The programme of required maintenance is prescribed in the Maintenance Programme reference

4.1.2 **Emergency Equipment**

The required Emergency Equipment will be maintained to a programme based on the equipment manufacturer's recommendations. In addition, the following requirements are complied with in the Maintenance Programme:

- a) Emergency equipment is to be checked for correct complement, stowage, installation and expiry date(s) at suitable periods.
- b) First Aid Kit(s) contents are checked at periods not exceeding 12 months.

The programme of required maintenance for (a) and (b) is prescribed in the Maintenance Programme reference.....

4.1.3 **Emergency Escape Provisions (as applicable)**

a) **Portable Valise Type Liferrafts.** At the appropriate Overhaul Period, 10% of all liferafts installed in fleets will be test inflated using system bottle and release mechanisms to the programme prescribed in the Maintenance Programme reference

b) **Door and Escape Chutes/Slides.** A programme of release and inflation tests will be carried out to the requirements specified in CAA Airworthiness Notice No. 12, Appendix 16, and CAA Standard Maintenance Practice No. 18 if applicable. The programme of required maintenance is prescribed in the Maintenance Programme reference

c) **Emergency Exits/Hatches.** All emergency exits and hatches are functioned by both internal and external means at periods specified in this Maintenance Programme. In the absence of manufacturer's specific recommendations these occur at suitable periods not exceeding 6 months elapsed time. The programme of required maintenance is prescribed in the Maintenance Programme reference

4.1.4 **Flexible Hoses**

Flexible hoses shall be inspected, overhauled or life limited in accordance with the manufacturer's recommendations.

In the absence of manufacturer's recommendations, hoses shall be subject to a programme of pressure testing at periods not exceeding 6 years from installation and 3 yearly thereafter, or in accordance with an alternative programme as agreed by the CAA.

4.1.5 **Fuel/Oil System Contamination Checks**

Consumable fluids, gases etc. uplifted prior to flight will be of the correct specification, free from contamination, and correctly recorded. The procedures are in accordance with MME/MOE procedures, Chapter

Fuel system water drain checks are to be carried out in accordance with MME/MOE procedures, Chapter

The procedures shall be in accordance with the manufacturer's recommendations. In the absence of manufacturer's recommendations, the frequency of the water drain checks shall be approved by the CAA.

4.1.6 **Pressure Vessels**

Oxygen/Nitrogen pressure vessels are to be overhauled or tested in accordance with manufacturer's recommendations. In the absence of any such recommendations the periods specified in British Standard Institute Standard (BSI) BS5430 are applied. The respective overhaul life limits are detailed in the Maintenance Programme reference

4.1.7 **Seat Belts and Harnesses**

In the absence of manufacturer's recommendations, all installed seat belts and harnesses shall be subject to a programme of Detailed Visual Inspection at periods not exceeding 6 months. The programme of required maintenance is prescribed in the Maintenance Programme reference

4.2 **Airworthiness Notices**

CAA Airworthiness Notices detail additional maintenance requirements. Procedures are in place to assess all Airworthiness Notices on a continuing basis for applicability to aircraft maintained to this Maintenance Programme. All Airworthiness Notices are assessed for applicability in accordance with the procedures defined in the MME/MOE Chapterand where necessary relevant maintenance tasks are included in the Maintenance Programme.

4.3 **Vital Points and Control Systems**

Whenever inspections are made or work is undertaken on vital points, flying or engine control systems, a detailed investigation must be made on completion of the task to ensure that all tools, rags or any other loose articles which could impede the free movement and safe operation of the system(s) have been removed and that the system(s) and installation in the aircraft zone are clean and unobstructed.

If, as a result of the application of tasks associated with the programme, any part of either the main or any associated system is dismantled, isolated, adjusted, repaired or renewed, that part of the system(s) which has been disturbed shall be subjected to a duplicate inspection, with free movement, range, direction and tension checks and shall be certified in accordance with British Civil Airworthiness Requirements, Section A Chapter A6-2 or Section B Chapter B6-2.

The relevant control procedures and instructions are prescribed in the MME/MOE Chapter

4.4 **CAA Specifications – Maintenance requirements resulting from the application of CAA Specifications for Type Certification.**

The programme of required maintenance is prescribed in the Maintenance Programme, and the associated control procedures (if any) are detailed in the MME/MOE Chapter

NOTE: Appendix B lists the applicable UK CAA Specifications.

4.5 **Maintenance Applicable to Specific Aeroplane Operations**

The Maintenance Programme contains the necessary tasks required to ensure continued compliance with additional special authorisations/approvals: ¹

Automatic Approach and Automatic Landing CAT II/CAT III
 Minimum Navigation Performance Specifications (MNPS)
 Reduced Vertical Separation Minima (RVSM)
 Extended Range Operations with two-engined aeroplanes (ETOPS)
 Other (Specify)

1. Delete/Add as applicable

The programme of required maintenance is prescribed in the Maintenance Programme and the relevant control procedures are as set out in the MME/MOE, Chapter

4.6 **Additional Maintenance Requirements**

4.6.1 **Modifications to Aircraft And Equipment**

Where aircraft structures, systems and components are modified from the original design standard, the maintenance and inspection requirements associated with these changes need to be evaluated. The process may produce additional tasks, component life limits, and condition monitoring requirements. These shall be introduced into the maintenance program as detailed in MME/MOE Maintenance Control Procedures.....

4.6.2 **Customer Furnished Equipment (CFE/VFE/BFE)**

The Maintenance Programme contains the necessary tasks required to ensure continued airworthiness of additional equipment fitted to this aircraft. The need for routine tasks has been assessed in accordance with MME/MOE procedure Chapter.....

4.7 **Engine and APU Maintenance Programme**

For engine and APUs which are controlled by a Reliability Centred Maintenance and Condition Monitored Maintenance Programme, compliance with BCAR A6-2 Appendix 1, paragraph 3, is prescribed in MME/MOE Chapter.....and in the engine and APU programme defined in "....." Engine/APU programmed reference.

NOTE: For engines and APUs controlled by a fixed Hot Section Inspection and Overhaul Life, no entry is required.

5 **Mandatory Requirements – Airworthiness Directives** **Reference JAR–OPS 1.910 (a) Appendix 1, paragraph 1.1.17.** **UK Air Navigation Order (CAP393)**

The following groups of Airworthiness Directives (ADs) are applicable to aircraft maintained in accordance with this Maintenance Programme.

1	¹ CAA Mandatory Aircraft Modifications and Inspections Summary	CAP476
2	¹ CAA Additional Airworthiness Directives	CAP473
3	¹ CAA Foreign Airworthiness Directives Volume III	CAP474
4	¹ FAA Airworthiness Directives Volume I	
5	¹ FAA Airworthiness Directives Volume II	
6	¹ Airworthiness Directives – State of Manufacture (Specify)
7	¹ Mandatory Requirements for Airworthiness	CAP 747

Procedures are in place to assess all ADs on a continuing basis for applicability to aircraft maintained to this Maintenance Programme. All Airworthiness Directives are assessed for applicability in accordance with the procedures defined in the MME/MOE Chapter and where necessary relevant maintenance tasks are included in the Maintenance Programme.

1. Delete as applicable

APPENDIX A
(Reference paragraph 3.12 of this Document)

Permitted Variations To Maintenance Periods (To be included in the operator's Maintenance Management Exposition/Maintenance Organisation Exposition.)

The operator may vary the periods prescribed by this Programme provided that such variations are within the limits of sub-paragraphs a) to d).

Variations shall be permitted only when the periods prescribed by this Programme (or documents in support of this Programme) cannot be complied with due to circumstances **which could not reasonably have been foreseen by the operator**. The decision to vary any of the prescribed periods shall be made only by the operator. Particulars of every variation so made shall be entered in the appropriate Log Book(s).

Period Involved	Maximum Variation of the Prescribed Period.
------------------------	--

a) Items Controlled by Flying Hours

- | | |
|----------------------------------|-------------------|
| (i) 5000 flying hours or less | 10%. |
| (ii) More than 5000 flying hours | 500 flying hours. |

b) Items Controlled by Calendar Time

- | | |
|---|--|
| (i) 1 year or less | 10% or 1 month, whichever is the lesser. |
| (ii) More than 1 year but not exceeding 3 years | 2 months. |
| (iii) More than 3 years | 3 months. |

c) Items Controlled by Landing/Cycles

- | | |
|------------------------------------|--|
| (i) 500 landings/cycles or less | 10% or 25 landings/cycles, whichever is the lesser |
| (ii) More than 500 landings/cycles | 10% or 500 landings/cycles, whichever is the lesser. |

d) Items Controlled by More Than One Limit

For items controlled by more than one limit, e.g. items controlled by flying hours and calendar time or flying hours and landings/cycles, the more restrictive limit shall be applied.

- NOTES:**
- 1) The variations permitted above do not apply to:
 - a) Those components for which an ultimate (scrap) or retirement life has been prescribed (e.g. primary structure, components with limited fatigue lives, and high energy rotating parts for which containment is not provided). Details concerning all items of this nature are included in the Type Certificate holder's documents or manuals, and are included in the preface pages to the Maintenance Programme.
 - b) Those tasks included in the Maintenance Programme which have been classified as mandatory by the Type Certificate holder or the CAA.
 - c) Certification Maintenance Requirements (CMR) unless specifically approved by the manufacturer and agreed by the CAA.
 - 2) CAA Airworthiness Notices may override these conditions

APPENDIX B
(Reference paragraph 4.4 of this Document)

UK CAA Specifications – Maintenance Requirements resulting from the application of CAA Specifications for Type Certification.

CAA Specification Number	Title
1	Safety Belts
2	Inflatable Life Rafts
5	Inflatable Lifejackets
6	Escape Chutes
7	Break In Points
9	Child's Floatation cot
10	Flight Data Recorder
10A	Flight Data Recorder
11	CVR
12	Underwater Sonar Locator Device (FDR/CVR)
14	GPWS
15	PA System
16	ADELTA Helicopters (N/A)
17	Wheels and Brakes Assemblies
18	FDR for Helicopter Accident Investigation (N/A)
19	Helicopter Crew Member Immersion Suits (N/A)
20	Passenger Protective Breathing Equipment
21	Helicopter Public Address Systems
22	Global Positioning Systems (GPS) for use in Rotorcraft for En-route Navigation

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Leaflet 14-21 Maintenance Programme Compliance Document (JAR-OPS 3)

Introduction

SMP21 addresses the requirements of JAR-OPS 3 for the approval of the Maintenance Programme.

The introductory section is for information purposes only and is not intended for inclusion in the Maintenance Programme submission. It also contains on page 4 an example of the required amendment (revisions) page required by the Appendix to AMC OPS 3.910 paragraph 3.

CAA Safety Regulation Group – Standard Maintenance Practice 21 Maintenance Programme Compliance Document (JAR-OPS 3)

Maintenance Programme Compliance Document (SMP 21)

The purpose of the attached Maintenance Programmes Compliance Document (MPCD) is to ensure that Maintenance Programmes submitted to the CAA for approval are standardised and include all items that are required by JAR-OPS 3.910 (a) and (b) and also other additional CAA National requirements.

The attached document includes all the relevant information as detailed in Appendix 1 to the Acceptable Means of Compliance (AMC) of JAR-OPS 3.910, the format of which may be modified to suit the operator's preferred method, but in all cases the content shall clearly show compliance with the requirement or shall be deleted if not applicable to the operator.

Compliance with the Maintenance Programme alone, does not obviate the need for the operator to ensure that at all times the aircraft and its equipment is maintained to a suitable programme that ensures compliance with the minimum operational requirements as follows:

- JAR-OPS subpart K, Instruments and Equipment.
- JAR-OPS subpart L, Communication and Navigation Equipment.
- Additional CAA National Requirements for Operational Approval – Certification Standards.
- Additional CAA National Requirements for Operational Approval – Maintenance Standards, including CAA Airworthiness Notices and CAA Standard Maintenance Practices.

The specific tasks and the relevant control procedures shall be included as specified in the Maintenance Programme (MP) or Maintenance Management Exposition/ Maintenance Organisation Exposition (MME/MOE) of the operator. The relevant cross references shall be specified at the appropriate paragraphs.

The MPCD contains the introduction, a Contents List, 5 Individual Sections and 2 Appendices:

Section 1 Maintenance Programme Preface details the specific JAR-OPS information that is required to be contained in the preface pages of the Maintenance Programme.

Section 2 details the content of the Operator's Certification Statement.

Section 3 identifies the Company procedures that are required to demonstrate compliance with JAR-OPS.

Section 4 is to address Additional UK Maintenance and Operational requirements.

Section 5 details the MME/MOE cross reference for the assessment of Airworthiness Directives that may be incorporated into the programme.

Appendix A sets out the CAA standard permitted variations to the maintenance periods that may be applied. These limitations shall be included in the MME/MOE as a procedure, the reference of which shall be quoted in Section 3 paragraph 3.10.

NOTE: These variations are not to be confused with a task escalation programme. (See Sections 3 paragraph 3.2)

Appendix B lists the current UK CAA Specifications which must be addressed for inclusion in Section 4 paragraph 4.1.

The operator shall submit to the CAA Regional Office the relevant parts of the programme and MME/MOE as required.

Amendments to any part of the approved Maintenance Programme, including the MPCD shall be submitted to the CAA Regional Office for approval in accordance with the procedures detailed in the operator's MME/MOE as appropriate.

In order to comply with the specific requirements of JAR-OPS the Inspection Standards applied shall be in accordance with the Type Certificate holders recommendations detailed in the relevant Maintenance Manual or Maintenance Planning Document/Guide (MPD/MPG). In the absence of manufacturer's recommendations the standards to be applied shall be those agreed by the CAA. (Section 3 paragraph 3.10). In either case the standards that shall be applied to the approved Maintenance Programme must be advised to the JAR-145 organisation responsible for carrying out the scheduled maintenance.

Maintenance Programme Approval Procedures

The application form for the approval of a maintenance programme should be submitted to the Flight Operations Department, c/o AOCM, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR. Receipt of the application form will be recorded and a copy shall be forwarded to the most appropriate local Regional Office. The approval process will be conducted and completed by the Regional Office, which will determine the sufficiency of the submission. However it will be necessary for the Compliance Statement programme/schedule and MME/MOE to be made available to the Regional Office. When satisfied that the programme/schedule complies with the requirements of JAR-OPS and CAA National Requirements, the AD271 approval document will be issued. Flight Operations Department (AOCM) will be advised of the programme approval by copy of the AD271.

Maintenance Programme Amendment Approval Submission

CAA Programme Ref: _____ Issue No: _____ Aircraft Type: _____

Operators. Programme Ref: _____ Issue Date: _____ Amendment No: _____

Item	Action to be taken	Justification	CAA Remarks
1 Introduction page A	Replace with new page dated	Introduction of new check cycle	
2 Introduction page B	Replace with new page dated	Introduction of Aircraft Registration G-	
3 Page 45 – Item E12	Replace with new page dated	Revision of forward and aft pressure bulkhead inspection requirements. In accordance with manufacturer’s latest requirements	

COMPLIANCE STATEMENT: This Maintenance Programme complies with the manufacturer’s minimum maintenance and inspection requirements and the requirements of the Civil Aviation Authority for the airframe, engines (on wing), systems and components except wherein previously or hereby Approved by the Civil Aviation Authority.

Signed: _____ Position: _____ Date: _____

Organisation: _____ on behalf of : _____

The above requested amendments are approved with the exception of: _____ Signed: _____ for the CAA

_____ Date: _____

**1 Maintenance Programme Preface
(Reference JAR AMC–OPS 3.910 (a) Appendix 1, paragraphs 1.1.1, 1.1.2, 1.1.3, 1.1.6)**

1.1 This Maintenance Programme is applicable to the following:

Helicopter Type/Model:

Engine(s) Type:

Registration(s)

1.2 Operator’s Name And Address

.....
.....
.....
.....

1.3 The periods and frequencies of the maintenance tasks and inspections in this Programme

Reference....., Issue Number....., Date.....

are based on an annual utilisation of (flying hours). If the annual utilisation varies by more than 25% from that stated, the operator accepts that the Maintenance Programme shall be reviewed in order that any necessary adjustments to the maintenance tasks and periods may be made.

1.4 ¹This Maintenance Programme is derived from Maintenance Review Board Report:

Reference / Issue No. / Date

1.5 ¹This Maintenance Programme is based on the Type Certificate holder’s maintenance recommendations (MPD, MPG or Maintenance Manual) as follows:

Manufacturer’s Manual Reference:	Issue No.	Date
Airframe
Engine

**2 Operator’s Certification Statement
(Reference JAR AMC–OPS 3.910 (a) Appendix 1, paragraphs 1.1.4)**

In the preparation of this Maintenance Programme to meet the requirements of JAR–OPS Sub Part M and the Air Navigation Order, the recommendations made by the airframe manufacturers, and engine and equipment manufacturers have been evaluated and, where appropriate, have been incorporated.

This Maintenance Programme lists the tasks and identifies the practices and procedures which form the basis for the scheduled maintenance of the helicopter(s) listed in paragraph 1.1. The operator undertakes to ensure that these helicopters will continue to be maintained in accordance with this programme.

In accordance with Procedure 3.1, the data contained in this programme will be reviewed for continued validity at least annually in the light of operating experience.

1. Delete as applicable

It is accepted that this programme does not prevent the necessity for complying with any new or amended regulation published by the CAA from time to time where these new or amended regulations may override elements of this programme.

It is understood that compliance with this programme alone does not discharge the operator from ensuring that the programme reflects the maintenance needs of the helicopter, such that continuing safe operation can be assured. It is further understood that the CAA reserves the right to suspend, vary or cancel approval of the Maintenance Programme if the CAA has evidence that the requirements of the Maintenance Programme are not being followed or that the required standards of airworthiness are not being maintained.

Name Position:

Signed:

For and on behalf of operator:

Date:

NOTE: The postholder identified above is that person required by JAR-OPS 3.175 and identified in the MME/MOE.

3 Procedures

3.1 Programme Review (Reference JAR AMC-OPS 3.910 (a) Appendix 1, paragraph 5)

It is accepted that in addition to monitoring fleet utilisation, the data contained in this Programme will be reviewed at least annually by the operator to ensure that the detailed requirements continue to be valid in the light of operating experience, or on receipt of Type Certificate holder's recommendations, or revisions to the Maintenance Review Board Report, that affect the maintenance needs of the aircraft. This review is in accordance with procedures set out in the MME/MOE, Chapter

3.2 Escalation of Maintenance Programme Check Periods¹ (Reference JAR AMC-OPS 3.910 (a) Appendix 1, paragraph 1.1.7.)

Escalation of the check periods associated with the Maintenance Programme, where applicable, shall be controlled by procedures acceptable to the CAA. These procedures are detailed in the MME/MOE, Chapter

3.3 Pre-flight Maintenance Tasks (Reference JAR AMC-OPS 3.910 (a) Appendix 1, paragraph 1.1.9.)

Where applicable this Maintenance Programme includes details of all pre-flight maintenance tasks normally accomplished by maintenance staff and not those included in the Operations Manual for action by the flight crew.

3.4 Certification Requirements and Definition of Maintenance Tasks (Reference JAR AMC-OPS 3.910 (b) paragraph 1)

Where necessary the Maintenance Programme includes details of who may issue Certificates of Release to Service (CRS) in a particular case, and also defines which of the check cycles are considered as base maintenance.

1. Delete if not applicable

See MME/MOE, Chapter

**3.5 Structural Inspection Programme
(Reference JAR AMC–OPS 3.910 (a) Appendix 1, paragraph 1.1.12.)**

This Maintenance Programme includes the requirements of the structural inspection programme and any associated sampling programme recommended by the manufacturer. ¹The procedures associated with the applicable sampling programme are detailed in the MME/MOE, Chapter

**3.6 Corrosion Control Programme
(Reference JAR AMC–OPS 3.910 (a) Appendix 1, paragraph 1.1.13.)**

This Maintenance Programme includes the corrosion control programme reference as recommended by the manufacturer with the control procedures as set out in the MME/MOE, Chapter

**3.7 Tasks Related To Mandatory Life Limitations, Certification Maintenance Requirements And Airworthiness Directives.
(Reference JAR AMC–OPS 3.910 (a) Appendix 1, paragraph 1.1.16.)**

The procedures for the assessment of Mandatory Life Limits are detailed in the MME/MOE, Chapter Certification Maintenance Requirements (CMRs) applicable to aircraft maintained to this Maintenance Programme as listed in Document Reference are controlled and implemented in accordance with procedures as set out in the MME/MOE, Chapter¹

The procedures for the assessment and control of Airworthiness Directives are detailed in the MME/MOE, Chapter

**3.8 Engine Health Monitoring
(Reference JAR AMC–OPS 3.910(a) Appendix 1, paragraph 1.1.17)**

When the manufacturer's Maintenance Programme includes powerplant components that do not have a stated overhaul life or are subject to a condition monitored maintenance programme, the operator's procedures include the associated programme for the health monitoring of the associated powerplant(s).

¹The method of data collection, analysis, corrective actions and reporting specified for the implementation of the condition monitoring or reliability programme are prescribed in the MME/MOE, Chapter Reliability programme are prescribed in the MME/MOE Chapter..... and in the engine and APU programmed defined in 'engine/APU programme reference'.

**3.9 Reliability Monitoring Of Helicopter Equipment
(Reference JAR AMC–OPS 3.910(a) Appendix 1, paragraph 1.1.17)**

When the manufacturer's Maintenance Programme includes components that do not have a stated overhaul life or are subject to a condition monitored maintenance programme, the operator's procedures include the associated programme for the reliability monitoring of the helicopter equipment.

¹The method of data collection, analysis, corrective actions and reporting specified for the implementation of the condition monitoring or reliability programme are prescribed in the MME/MOE, Chapter

1. Delete if not applicable

3.10 Inspection Standards
(Reference JAR AMC–OPS 3.910 (a) Appendix 1, paragraph 1.1.18.)

¹The standards applied to the individual task inspections meet the requirements of the Type Certificate holder's recommended standards and practices. These standards and any additional standards specified by the operator are as defined in the MME/MOE, Chapter

or if not defined

¹The standards applied to the individual task inspections meet the requirements of the CAA recommended standards and practices. These standards and any additional standards specified by the operator are as defined in the MME/MOE, Chapter

3.11 Abbreviations, Terms And Definitions
(Reference JAR AMC–OPS 3.910 (a) Appendix 1, paragraph 1.1.19.)

All significant terms and abbreviations used within this Programme to define each maintenance task are defined in accordance with the Type Certificate holder's definitions, current JAR, CAA BCAR definitions or, in the absence of formal definitions, those quoted in World Airlines Technical Operations Glossary.

A list of current terms and abbreviations are contained in Maintenance Programme Reference

3.12 Permitted Variations To Maintenance Periods
(Reference JAR AMC–OPS 3.910 (a) Appendix 1, paragraph 4)

As set out in paragraph 4 of the AMC Appendix 1, Permitted Variations to Maintenance Periods, and with the approval of the CAA, the periods prescribed by this Programme may only be varied in accordance with the procedures, conditions and limits set as defined in the MME/MOE, Chapter

NOTE: Appendix A defines the CAA Permitted Variations.

4 Additional UK Maintenance Requirements.
(Reference JAR AMC–OPS 3.910 (a) Appendix 1, paragraph 1.1.16.)

4.1 Standard Maintenance Practices

4.1.1 Aircraft Battery Capacity Checks

Aircraft batteries shall be maintained in accordance with the manufacturer's recommendations. In the absence of any manufacturer's instructions the following periods apply:

- a) Lead acid Battery – not exceeding 3 months.
- b) Ni-Cad Battery – not exceeding 4 months.

The programme of required maintenance is prescribed in the Maintenance Programme reference

4.1.2 Emergency Equipment

The required Emergency Equipment will be maintained to a programme based on the equipment manufacturer's recommendations. In addition, the following requirements are complied with in the Maintenance Programme:

1. Delete as applicable

- a) Emergency equipment is to be checked for correct complement, stowage, installation and expiry date(s) at suitable periods.
- b) First Aid Kit(s) contents are checked at periods not exceeding 12 months.

The programme of required maintenance for (a) and (b) is prescribed in the Maintenance Programme reference

4.1.3 **Emergency Escape Provisions (as applicable)**

- a) **Portable Valise Type Liferafts.** At the appropriate Overhaul Period, 10% of all liferafts installed in fleets will be test inflated using system bottle and release mechanisms to the programme prescribed in the Maintenance Programme reference
- b) **Door and Escape Chutes/Slides.** A programme of release and inflation tests will be carried out to the requirements specified in CAA Airworthiness Notice No. 12, Appendix 16, and CAA Standard Maintenance Practice No. 18 if applicable. The programme of required maintenance is prescribed in the Maintenance Programme reference
- c) **Emergency Exits/Hatches.** All emergency exits and hatches are functioned by both internal and external means at periods specified in this Maintenance Programme. In the absence of manufacturer's specific recommendations these occur at suitable periods not exceeding 6 months elapsed time. The programme of required maintenance is prescribed in the Maintenance Programme reference

4.1.4 **Flexible Hoses**

Flexible hoses shall be inspected, overhauled or life limited in accordance with the manufacturer's recommendations. In the absence of manufacturer's recommendations, hoses shall be subject to a programme of pressure testing at periods not exceeding 6 years from installation and 3 yearly thereafter, or in accordance with an alternative programme as agreed by the CAA.

4.1.5 **Fuel/Oil System Contamination Checks**

Consumable fluids, gases etc. uplifted prior to flight will be of the correct specification, free from contamination, and correctly recorded. The procedures are in accordance with MME/MOE procedures, Chapter

Fuel system water drain checks are to be carried out in accordance with MME/MOE procedures, Chapter

The procedures shall be in accordance with the manufacturer's recommendations. In the absence of manufacturer's recommendations, the frequency of the water drain checks shall be approved by the CAA.

4.1.6 **Pressure Vessels**

Oxygen/Nitrogen pressure vessels are to be overhauled or tested in accordance with manufacturer's recommendations. In the absence of any such recommendations, the periods specified in British Standard Institute Standard (BSI) BS5430 are applied. The respective overhaul life limits are detailed in the Maintenance Programme reference

4.1.7 **Seat Belts And Harnesses**

In the absence of manufacturer's recommendations, all installed seat belts and harnesses shall be subject to a programme of Detailed Visual Inspection at periods

not exceeding 6 months. The programme of required maintenance is prescribed in the Maintenance Programme reference

4.2 **Airworthiness Notices CAA**

Airworthiness Notices detail additional maintenance requirements. Procedures are in place to assess all Airworthiness Notices on a continuing basis for applicability to aircraft maintained to this Maintenance Programme. All Airworthiness Notices are assessed for applicability in accordance with the procedures defined in the MME/MOE Chapter and where necessary relevant maintenance tasks are included in the Maintenance Programme.

4.3 **Vital Points And Control Systems**

Whenever inspections are made or work is undertaken on vital points, flying or engine control systems, a detailed investigation must be made on completion of the task to ensure that all tools, rags or any other loose articles which could impede the free movement and safe operation of the system(s) have been removed and that the system(s) and installation in the aircraft zone are clean and unobstructed.

If, as a result of the application of tasks associated with the programme, any part of either the main or any associated system is dismantled, isolated, adjusted, repaired or renewed, that part of the system(s) which has been disturbed shall be subjected to a duplicate inspection, with free movement, range, direction and tension checks and shall be certified in accordance with British Civil Airworthiness Requirements, Section A Chapter A6-2 or Section B Chapter B6-2.

The relevant control procedures and instructions are prescribed in the MME/MOE Chapter

4.4 **CAA Specifications – Maintenance requirements resulting from the application of CAA Specifications for Type Certification.**

The programme of required maintenance is prescribed in the Maintenance Programme, and the associated control procedures (if any) are detailed in the MME/MOE Chapter

NOTE: Appendix B lists the applicable UK CAA Specifications.

4.5 **Maintenance Applicable to Specific Helicopter Operation**

The Maintenance Programme contains the necessary tasks required to ensure continued compliance with additional special authorisations/approvals: ¹

- Automatic Approach and Automatic Landing CAT II/CAT III
- Sea Pilot transfers
- Offshore operations
- HEMS
- Transportation of Dangerous Goods
- Other (Specify)

The programme of required maintenance is prescribed in the Maintenance Programme and the relevant control procedures are as set out in the MME/MOE, Chapter

1. Delete/Add as applicable

4.6 Additional Maintenance Requirements

4.6.1 Modifications to Aircraft And Equipment

Where aircraft structures, systems and components are modified from the original design standard, the maintenance and inspection requirements associated with these changes need to be evaluated. The process may produce additional tasks, component life limits, and condition monitoring requirements. These shall be introduced into the maintenance programme as detailed in MME/MOE Maintenance Control Procedures.....

4.6.2 Customer Furnished Equipment (CFE/VFE/BFE)

The Maintenance Programme contains the necessary tasks required to ensure continued airworthiness of additional equipment fitted to this aircraft. The need for routine tasks has been assessed in accordance with MME/MOE procedure Chapter.....

4.7 Engine and APU Maintenance Programme

For engine and APUs which are controlled by a Reliability Centred Maintenance and Condition Monitored Maintenance Programme, compliance with BCAR A6-2 Appendix 1, paragraph 3, is prescribed in MME/MOE Chapter.....and in the engine and APU programme defined in '.....' Engine/APU programmed reference.

NOTE: For engines and APUs controlled by a fixed Hot Section Inspection and Overhaul Life, no entry is required.

5 Mandatory Requirements – Airworthiness Directives Reference JAR–OPS 3.910 (a) Appendix 1, paragraph 1.1.17. UK Air Navigation Order (CAP393)

The following groups of Airworthiness Directives (ADs) are applicable to aircraft maintained in accordance with this Maintenance Programme.

1	¹ CAA Mandatory Aircraft Modifications and Inspections Summary	CAP 476
2	¹ CAA Additional Airworthiness Directives	CAP 473
3	¹ CAA Foreign Airworthiness Directives Volume III	CAP 474
4	¹ FAA Airworthiness Directives Volume I	
5	¹ FAA Airworthiness Directives Volume II	
6	¹ Airworthiness Directives – State of Manufacture (Specify)
7	¹ Mandatory Requirements for Airworthiness	CAP 747

Procedures are in place to assess all ADs on a continuing basis for applicability to aircraft maintained to this Maintenance Programme. All Airworthiness Directives are assessed for applicability in accordance with the procedures defined in the MME/MOE Chapter and where necessary relevant maintenance tasks are included in the Maintenance Programme.

1. Delete as applicable

APPENDIX A
(Reference paragraph 3.12 of this Document)

Permitted Variations To Maintenance Periods (To be included in the operator's Maintenance Management Exposition/Maintenance Organisation Exposition.)

The operator may vary the periods prescribed by this Programme provided that such variations are within the limits of sub-paragraphs a) to d).

Variations shall be permitted only when the periods prescribed by this Programme (or documents in support of this Programme) cannot be complied with due to circumstances **which could not reasonably have been foreseen by the operator**. The decision to vary any of the prescribed periods shall be made only by the operator. Particulars of every variation so made shall be entered in the appropriate Log Book(s).

Period Involved	Maximum Variation of the Prescribed Period.
------------------------	--

a) Items Controlled by Flying Hours

- | | |
|---------------------------------|-------------------|
| i) 5000 flying hours or less | 10%. |
| ii) More than 5000 flying hours | 500 flying hours. |

b) Items Controlled by Calendar Time

- | | |
|--|--|
| i) 1 year or less | 10% or 1 month, whichever is the lesser. |
| ii) More than 1 year but not exceeding 3 years | 2 months. |
| iii) More than 3 years | 3 months. |

c) Items Controlled by Landing/Cycles

- | | |
|-----------------------------------|--|
| i) 500 landings/cycles or less | 10% or 25 landings/cycles, whichever is the lesser |
| ii) More than 500 landings/cycles | 10% or 500 landings/cycles, whichever is the lesser. |

d) Items Controlled by More Than One Limit

For items controlled by more than one limit, e.g. items controlled by flying hours and calendar time or flying hours and landings/cycles, the more restrictive limit shall be applied.

- NOTES:** 1) The variations permitted above do not apply to:
- a) Those components for which an ultimate (scrap) or retirement life has been prescribed (e.g. primary structure, components with limited fatigue lives, and high energy rotating parts for which containment is not provided). Details concerning all items of this nature are included in the Type Certificate holder's documents or manuals, and are included in the preface pages to the Maintenance Programme.
 - b) Those tasks included in the Maintenance Programme which have been classified as mandatory by the Type Certificate holder or the CAA.
 - c) Certification Maintenance Requirements (CMR) unless specifically approved by the manufacturer and agreed by the CAA.
- 2) CAA Airworthiness Notices may override these conditions.

APPENDIX B
(Reference paragraph 4.4 of this Document)

UK CAA Specifications – Maintenance Requirements resulting from the application of CAA Specifications for Type Certification.

CAA Specification Number	Title
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5	Inflatable Lifejackets
6	Escape Chutes
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10	Flight Data Recorder
10A	Flight Data Recorder
11	CVR
12	Underwater Sonar Locator Device (FDR/CVR)
14	GPWS
15	PA System
16	ADELTA Helicopters
17	Wheels and Brakes Assemblies
18	FDR for Helicopter Accident Investigation
19	Helicopter Crew Member Immersion Suits
20	Passenger Protective Breathing Equipment
21	Helicopter Public Address Systems
22	Global Positioning Systems (GPS) for use in Rotorcraft for En-route Navigation

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