

Airworthiness Information Notice No: 003

18 May 2013

APPROVAL OR AMENDMENT OF MAINTENANCE PROGRAMMES

1 Introduction

- 1.1 This Airworthiness Information Notice has been produced to inform operators and Maintenance Organisations of the changes to the processes and procedures applicable to the approval or amendment of maintenance programmes.
- 1.2 All aircrafts registered in Brunei must be maintained to a maintenance programme approved by the Brunei Department of Civil Aviation. The maintenance programme needs to be customised to reflect the aircraft build standard, engine(s), APU and equipment installed. It must contain the maintenance requirements issued by the type certificate holder, MRB/MPD, equipment manufacturer and Brunei Department of Civil Aviation, as applicable.
- 1.3 Although Brunei has not yet formally adopted a continuing airworthiness requirement based on Part M, this AIN makes reference to material from Part M. Part M requirements are broadly similar to JAR OPS. This policy will not therefore prove to be an additional burden Operators and will help simplify the transition to Part M once adopted.

2 Procedure

- 2.1 Applications for the approval of a maintenance programme should be submitted to the Brunei Department of Civil Aviation using Form DCA AD981A. This can be submitted at the same time as the programme is submitted for review. One copy of the proposed maintenance programme should be submitted, suitably bound, in hardcopy format.

Note: The approved programme and amendments to the programme can be provided to the Brunei Department of Civil Aviation in electronic format. Experience has shown that when performing a review of a new programme or a major amendment to the programme, it is easier to review as a hard copy.

- 2.2 A preface document has been produced by the Brunei Department of Civil Aviation to help to ensure that maintenance programmes submitted for approval are standardised and include all Brunei Department of Civil Aviation requirements. The preface document (Standard Form SF-36) can be obtained from the Department of Civil Aviation. This Standard Form should help Operators to understand the requirements applicable to the approval of the maintenance programme and to assist them when preparing the document for approval. Page 3 onwards of the Standard Form can be used as a template by operators to help layout the format and content of their programme document. The format of this document can be modified as necessary, but in all cases the content shall clearly show compliance with the requirement or shall be deleted if not applicable.

Note: Appendix 1 contains the text of Standard Form SF-36. Copies of SF36 can be obtained, on request, from the Brunei Department of Civil Aviation.

- 2.3 Operators should replace the existing preface document in their current maintenance programmes with one based on SF-36 when the document is next amended. Many current maintenance programmes use United Kingdom Civil Aviation Authority standard maintenance practice documents as the basis for the preface.

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- 2.4 A Brunei Department of Civil Aviation approval number will be allocated to the programme document using the format BDCA MP (aircraft type)/XX/XXXX. Therefore, BDCA MP B787/01/2013 will be allocated to the first new maintenance programme submitted for approval in 2013. "B787" confirms that it is applicable to Boeing 787 Aircraft.
- 2.5 Programmes approved prior to the introduction of this Procedure, may retain the original approval reference.
- 2.6 Further assistance with developing the technical and administrative contents of a maintenance programme can be found in Part M, Appendix 1 to AMC M.A.302 and M.B.301(b).
- 2.7 Findings that need correction or clarification before the maintenance programme can be approved will be identified by the Brunei Department of Civil Aviation. The operator will have to address the findings and amended the programme, as necessary, before submitting it for final approval.
- 2.8 Approval of the maintenance programme will be confirmed by the issue of a "Maintenance Programme Approval" Standard Form SF-41.

3 Amendments to Maintenance Programmes

- 3.1 The Operator is responsible for ensuring that maintenance programmes are subject to periodic review in accordance with M.A.302. All amendments must be approved by the Brunei Department of Civil Aviation . The control of the revision standard of the maintenance programme is subject to review by the Brunei Department of Civil Aviation during audits of an Operators continuing airworthiness management organisation.
- 3.2 When amendment of the maintenance programme is required, the Operator should submit one copy of the amendment, together with a full explanation of the contents of the amendment on a Form in the format shown on page 2 of the SF-36, with appropriate attachments, as required.
- 3.3 On completion of the review, the Brunei Department of Civil Aviation will confirm acceptance of the amendment by signing the approval statement on the bottom of the Form mentioned in 3.2 above. A copy of the signed Form will be provided to the Operator.
- 3.4 If any part of the amendment is considered unacceptable, the Brunei Department of Civil Aviation will reject or delete the unacceptable items giving reasons for the rejection or deletion in writing.

APPENDIX 1

SF-36 Text

MAINTENANCE PROGRAMME PREFACE DOCUMENT

The purpose of the attached Maintenance Programmes Preface Document is to ensure that Maintenance Programmes submitted to the Brunei Department of Civil Aviation for approval are standardised and include all Brunei Department of Civil Aviation requirements.

The operator may modify the format of this document as necessary, 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 are maintained in an airworthy condition.

The Maintenance Programmes Preface Document contains 4 Individual Sections and an Appendix:

- Section 1 Identifies the operator and the applicability of the programme it also lists the Type Certificate holders documents from which it has been derived.
- Section 2 Details the content of the Operator's Certification Statement.
- Section 3 Defines the standards and practices to be applied in the Maintenance Programme
- Section 4 Identified the Brunei Department of Civil Aviation Maintenance, additional requirements

Appendix A sets out the Brunei Department of Civil Aviation standard permitted variations to the maintenance periods that may be applied. Where the manufacturer or State of Design recommends permitted variations to the maintenance programme, the decision on which limits to apply should be made in consultation with the DCA.

Note: These variations are not to be confused with a task escalation programme

Amendments to any part of the approved Maintenance Programme, shall be submitted to the Brunei Department of Civil Aviation for approval in accordance with the procedures detailed in the operator's MME. An example of a suitable maintenance programme amendment approval submission form is provided on the next page.

Maintenance Programme Approval Procedures

The maintenance programme should be submitted to Brunei Department of Civil Aviation The approval process will be conducted and completed by the Airworthiness Section. When satisfied that the programme complies with Brunei Department of Civil Aviation requirements, the DCA will issue a maintenance programme approval document.

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MAINTENANCE PROGRAMME AMENDMENT APPROVAL SUBMISSION

Programme Reference: _____

Issue No: _____ Aircraft Type: _____

Item	Action to be taken	Justification
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
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 Brunei Department of Civil Aviation for the airframe, engines (on wing), systems and components except wherein previously or hereby Approved by the Department Of Civil Aviation

Signed: _____

Position: _____

Date: _____

Organisation: _____

The above requested amendments are approved,

Signed: _____ for the Department of Civil Aviation

Date: _____

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1 MAINTENANCE PROGRAMME PREFACE

This Maintenance Programme is applicable to the following:

Aircraft Type/Model:.....

Engine(s) Type:.....

APU Type:.....

Propeller Type:.....

Registration(s):.....

1.1 OPERATORS NAME AND ADDRESS

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

1.2 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 * This Maintenance Programme is derived from Maintenance Review Board Report:

Reference / Issue No. / Date

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

Airframe

Engine

APU

Propeller

*Delete as applicable

2 OPERATOR’S CERTIFICATION STATEMENT

In the preparation of this Maintenance Programme to meet the requirements of the Brunei Civil Aviation Order & Regulations, the recommendations made by the airframe constructors 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 aircraft listed in Paragraph 1. The operator undertakes to ensure that these aircraft will continue to be maintained in accordance with this programme.

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 Brunei Department of Civil Aviation from time to time where these new or amended regulations may override elements of this programme.

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

Name: Position:

Signed:

For and on behalf of operator:

Date:

NOTE: The person signing this statement should be the nominated post holder for maintenance or equivalent.

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3. STANDARDS AND PRACTICES

3.1 Flying Times

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

3.2 Certification of Maintenance

The Certification of maintenance must comply with the Civil Aviation Order 2006 and the requirements specified in the Brunei Department of Civil Aviation Approval Document relating to this Program.

3.3 Permitted Variations to Maintenance Periods

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

3.4 Airworthiness Directives and Manufacturer's Service Information

The Civil Aviation Order 2006 requires that aircraft must be maintained in accordance with all 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

Compliance with the mandatory requirements of the Responsible Authority of the country of origin must be achieved unless this requirement is varied by the DCA.

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 Program.

3.5 Fatigue Lives and Mandatory Life Limitations

Structural 'fatigue' lives published by the manufacturer or by the Brunei Department of Civil Aviation are mandatory for aircraft on the Brunei Register.

All other life limitations classified as mandatory by the manufacturer must also be observed unless varied by the Brunei Department of Civil Aviation.

3.6 Maintenance Practices and Procedures

The practices and procedures necessary to accomplish the requirements of this Program, or work resulting from its application, must adhere to the standards defined in:

- a) The Type Certificate Holders Overhaul and Repair Manuals
- b) Brunei Civil Aviation Regulations

3.7 All 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.

4 ADDITIONAL DCA MAINTENANCE REQUIREMENTS

4.1 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.

4.2 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.

4.3 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 Program.
- b) Door and Escape Chutes/Slides. Slides and shuts must be inflated and tested as least once every 36 months or prior to overhaul in accordance with MPD recommendations.
- 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.

4.4 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 Brunei Department of Civil Aviation

4.5 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.

Fuel system water drain checks are to be carried out in accordance with the manufacturer's recommendations. In the absence of manufacturer's recommendations, the frequency of water drain checks shall be approved by the Brunei Department of Civil Aviation.

4.6 **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.

4.7 **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.

4.8 **Maintenance Applicable To Specific Aircraft Operations**

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

- 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 aircraft (ETOPS)
- Offshore Operations

* Delete as applicable

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

The Maintenance Programme contains the necessary tasks required to ensure continued airworthiness of equipment specified or furnished by other than the constructor.

4.10 **Engine and APU Maintenance Programme**

For engine and APU's which are controlled by a Reliability Centred Maintenance and Condition Monitored Maintenance Programme, the process used to develop the off wing maintenance requirements and shop input work scopes is defined in the Maintenance Programme. For Engines and APU's controlled by a fixed Hot Section Inspection and Overhaul life these limits must be defined in the Maintenance Programme.

4.11 **Mode "S" Transponder ICAO 24 Bit Address**

The correct Mode "S" Transponder code must be confirmed using a field test set, at an appropriate maintenance opportunity, at least once every two years.

4.12 **Flight Recorder Systems**

The checks necessary to ensure Flight Data Recorder systems remain serviceable must be performed in accordance with the requirements of UK CAA, CAP 731, Chapter 7, or in accordance with an alternative programme as agreed by the Brunei Department of Civil Aviation.

4.13 **Cockpit Voice Recorder Systems**

The checks necessary to ensure Cockpit Voice Recorder systems remain serviceable must be performed in accordance with the requirements of UK CAA, CAP 731, Chapter 12, or in accordance with an alternative programme as agreed by the Brunei Department of Civil Aviation.

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Appendix A

PERMITTED VARIATIONS TO MAINTENANCE PERIODS

- 1 The Operator may vary the periods prescribed by this Program provided that such variations are within the limits of subparagraphs a) to d) below.
- 2 Variations shall be permitted only when the periods prescribed by this Program (or documents in support of this Program) cannot be complied with due to circumstances which could not reasonably have been foreseen by the Operator.
- 3 The decision to vary any of the prescribed periods shall be taken only by the Quality Manager or person of equivalent status on behalf of 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 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	0% 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.

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 documentation or manuals.
 - (b) Those tasks included in the Maintenance Program which have been classified as mandatory by the type certificate holder or the Brunei Department of Civil Aviation.
 - (c) Certification Maintenance Review Items (CMR) unless specifically approved by the manufacturer and agreed by the Brunei Department of Civil Aviation.