
DEPARTMENT OF CIVIL AVIATION
Airworthiness Notices

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**REQUIREMENTS FOR C OF R, C OF A, CONTINUING AIRWORTHINESS AND
MAINTENANCE CONTROL OF HOT AIR BALLOONS**

1. Purpose

The purpose of this Airworthiness Notice is to provide information and guidance to the commercial hot air balloon Operators for certificate of registration, certificate of airworthiness, continuing airworthiness management and maintenance support for hot air balloon Operations.

2. Acceptable Airworthiness Standard

The approved Standards in respect of design, method of construction, equipment and performance etc. specified in CS 31HB (Hot Air Balloon) of EASA and FAR Part 31 of FAA (USA) shall be the minimum requirements for Airworthiness of the hot air balloons.

3. Registration and Marking of Balloons

- 3.1 All manned free balloons are required to be registered before any flight is undertaken and registration markings must be affixed thereon in manner prescribed in Myanmar Civil Aviation Requirements Part 47.
- 3.2 The Certificate of Registration, when issued, shall include information on the type of Hot Air Balloon, Manufacture's Serial Number, nationality, registration markings assigned, the number and date of registration, etc,. A copy of this Certificate of Registration shall be kept on board during flight.
- 3.3 Every hot air balloon shall carry an identification plate showing the registration markings, constructor's name, the balloon serial number and the name and address of the owner of the balloon.

4. Certificate of Airworthiness of Balloons

- 4.1 No hot air balloon shall be flown unless it possesses a valid Certificate of Airworthiness.
- 4.2 Hot air balloons engaged in commercial operations whose Airworthiness standards are acceptable to the Director General may be granted Certificate of Airworthiness in its usual Category subject to compliance of applicable requirements and such other conditions as may be prescribed.
- 4.3 The Certificate of Airworthiness may remain valid for a period not exceeding 12 months unless withdrawn or suspended earlier by the Director General if he is satisfied that reasonable doubt exists as to safety of the balloon in question_
 - (i) if the balloon is not inspected and certified by Part M Subpart F or Part-145 organization at intervals prescribed in the approved Manual;

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- (ii) if mandatory modifications/inspections as required by the Director General are not carried out;
 - (iii) if modifications/repairs affecting Airworthiness of the balloon and not approved by the manufacturer or by the Director General, are carried out; and
 - (iv) if a balloon suffers major damage or reveals any major defect which may render the machine unsafe for flight and shall remain suspended till such time the above deficiencies are rectified.
- 4.4 Application for the issue/renew of Certificate of Airworthiness shall be made to the DCA, on the proper form, together with recommendation by Inspector/ Chief Pilot and prescribed fees.
- 4.5 The DCA may issue/ renew the Certificate of Airworthiness in respect of a balloon for a maximum period of 12 months, after such inspection and subject to such conditions as may be prescribed.

5. Continuing Airworthiness Management and Maintenance Support Arrangements

- 5.1 It is the responsibility of the Operator to satisfy the DCA that the continuing airworthiness management and maintenance support arrangements are compliant with MCAR Part M. The Operator may hold Part M Subpart G, Part M Subpart F or Part-145 approvals, or contract-out the continuing airworthiness management and maintenance to an organization(s) which holds Part M Subpart G approval for continuing airworthiness management and either Part M Subpart F or Part-145 for maintenance.
- 5.2 The Operator remains responsible for the safe operation of the balloon even when continuing airworthiness management and maintenance is contracted out and must therefore be satisfied with the standards of airworthiness achieved by the contractor(s). The Operator must monitor the contractor's response to the provisions of the arrangements, employing such technical resources as are necessary to achieve this task.
- 5.3 If the Operator does not hold its own Part M Subpart G, Part M Subpart F or Part-145 approvals then there must be a documented internal annual review (audit) of any contracts to ensure both parties have fulfilled their obligations.

6. Operator's Responsibilities

- 6.1 The Operator is responsible for the continuing airworthiness of the balloon and shall ensure that no flight takes place unless:
- (a) the balloon is in an airworthy condition;
 - (b) any operational and emergency equipment is fitted correctly and is serviceable;
 - (c) the Certificate of Airworthiness remains valid; and
 - (d) the Maintenance of the balloon is performed in accordance with an Approved Maintenance Programme or Manufacturer's Maintenance Manual.

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- 6.3 If the Balloon Operator holds its own Part M Subpart G for continuing airworthiness and/or Part M Subpart F or Part-145 for maintenance, then the procedures to control continuing airworthiness functions will be contained in the Operator's appropriate Exposition. If continuing airworthiness management and maintenance support is contracted out, the continuing airworthiness tasks must be controlled by a contracted organization to achieve full compliance of tasks listed in MCAR Part M Subpart C (Continuing Airworthiness).
- 6.4 The Operator must establish a procedure acceptable to the DCA to ensure that commanders discharge the following responsibilities:
- (a) That all Servicing/Maintenance is carried out including pre-flight checks;
 - (b) That defects affecting airworthiness or safe operation of the balloon are recorded on the appropriate log book; and
- 6.5 The Operator must liaise with the Part M Subpart G organization to ensure that the Approved Maintenance Programme or Manufacturer's Maintenance Manual is reviewed annually with the object of ensuring that the programme requirements continue to have practical applicability in the light of experience, utilization and age and adequately meet the maintenance needs of the balloon to ensure the continuing airworthiness of the balloon.
- 6.6 The review must take account of variations from the original certification standard of the balloon which may have occurred as a result of modifications and respond to the recommendations of the manufacturer contained in Maintenance Manuals and Service Bulletins.
- 6.7 For the purpose of maintenance and inspection, a log book must be maintained with each Hot air balloon envelope. If the Burner, Basket and/or Cylinders are interchanged, they must be listed in the log book of each envelope with which they are used.

7. Contracted-Out Maintenance

- 7.1 Contracted arrangements for continuing airworthiness management and maintenance do not absolve an Operator from the overall responsibility for ensuring the safe operation and continuing airworthiness of the balloon.
- 7.2 There must be in force an approved arrangement between the Operator and the Part M Subpart G organization for continuing airworthiness management, giving full details of the division of obligations of the Operator and the obligations of the Part M Subpart G and Maintenance Organization(s).
- 7.3 In addition to a contract for continuing airworthiness management, there must be also a contract for the maintenance support through a Part M Subpart F or Part-145 approved maintenance organization. This may either be a separate contract with a different organization to that of airworthiness management or be a combined contract if the contracted services are with the same organization.

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- 7.4 An Operator must nominate a person for continuing airworthiness liaison purposes. This person will be responsible to the Operator, for liaison on all matters relating to the continuing airworthiness and maintenance contracts and for airworthiness matters affecting the safe operation of the balloon.
- 7.5 An Operator may only arrange separately for the maintenance, overhaul and repair of components with the knowledge and agreement of the contracted Part M Subpart G approved organization.
- 7.6 Responsibilities for the assessment and incorporation of manufacturer's Service Information and for compliance with mandatory requirements must be clearly defined in the arrangement.
- 7.7 In its assessment of the overall continuing airworthiness support arrangements provided to the Operator, the DCA will require to examine, and may require to hold copies of, all arrangements between the parties concerned.
- 7.8 Any proposal to change the contracted arrangements must be notified to the DCA at least 30 days prior to the proposed date of implementation.
- 7.9 The Operator must ensure that the contracted Part M Subpart G and Part M Subpart F or Part-145 Organizations competently discharge their responsibilities under the arrangements to its satisfaction, and is also responsible for satisfying the DCA that the contracted organization(s) meets its responsibilities, insofar as they relate to the contracted work.

8. Contracting-Out Component Maintenance

When an Operator chooses to contract-out maintenance of components independently from the overall arrangements existing for continuing airworthiness management and maintenance support of the balloon, i.e. directly with the component manufacturer, it is essential that the contracted continuing airworthiness management and maintenance organization:

- (a) is fully in agreement with the proposed arrangements;
- (b) is made aware of the status of components fitted to the balloon in respect of modifications, Service Bulletins and Airworthiness Directives;
- (c) liaise with the component maintenance contractor in respect of the requirements of the approved maintenance schedule for the balloon, so that the component maintenance reflects the needs of the balloon for airworthiness; and
- (d) ensure that at all times the liaison between the Operator and the Part M Subpart G approved organization and the approved maintenance organization is such to ensure continuing airworthiness is achieved.

9. Continuing Airworthiness Management and Maintenance Arrangement

- 9.1 The purpose of the written arrangement is to indicate the divisions of obligations between the Operator and the contracted organization(s) for the continuing

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airworthiness and maintenance support of the balloon for which application has been made for an AOC (Balloon).

- 9.2 When an Operator contracts a Part M Subpart G approved continuing airworthiness organization in accordance with Part M to carry out continuing airworthiness management tasks, a copy of the arrangement shall be sent by the Operator to the DCA once it has been signed by both parties.
- 9.3 The arrangement shall be developed taking into account the requirements of Part M and shall define the obligations of the signatories in relation to continuing airworthiness of the balloons.
- 9.4 When an Operator contracts a Part M Subpart F or Part-145 approved maintenance organization in accordance with Part M, details of the maintenance contract may be a separate document or combined if the Part M Subpart G and the Part M Subpart F or Part-145 organization are the same.

10. Technical Records

- 10.1 The person responsible for the continuing airworthiness of the balloon must ensure that the balloon technical records are completed and the details are transferred to the Part M Subpart G contracted organization:
- (a) such that it is possible to ensure that the hours of service or elapsed times quoted in the approved maintenance programme or Manufacturer's Maintenance Manual are not exceeded as regards components and structural assemblies, and that scheduled maintenance periods are adhered to;
 - (b) to record the number of hours or flights, when this information is specified in the approved maintenance programme or manufacturer's maintenance manual as a basic for inspection or other necessary action; and
 - (c) to process the foregoing information into the appropriate log book or equivalent records, to maintain the records and documents concerning overhaul and repair work, component changes, mandatory modifications and inspections in conjunction with the Part M Subpart G organization.
- 10.2 A computer may be used as part of a technical records system. In this case, procedures should be instituted which will ensure that the computerized record will provide storage, preservation and retrieval to the same level as would have been achieved by hard copy records.

11. Airworthiness Directives and Manufacturer's Technical Information

- 11.1 The Operator and the contracted continuing airworthiness organization must have procedures to ensure that ADs are complied with as required.
- 11.2 When manufacturer's service information is received, an immediate assessment must be made to establish priority of response. Matters of significant airworthiness importance must be responded to promptly. The assessment will be conducted in

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- conjunction with the contracted Part M Subpart G organization.
- 11.3 A record of all ADs and non-mandatory modifications should be kept. The record should list all ADs generally applicable to the type, including those not specifically applicable to the individual balloon, including reason for non-applicability. This information is normally recorded in the balloon logbook.
- 11.4 Operators must ensure that the relevant balloon manufacturer is aware that they are users of their balloon so that all relevant service information, details of in-service experience of the balloon and amendments to manuals, including Flight Manual, are received and embodied in a timely manner. This is especially important where the Operator is not the original owner of the balloon, or it has been leased from the Owner.
- 11.5 The Operator or contracted Continuing Airworthiness Management and Maintenance Organization must hold and make available to personnel concerned the necessary technical data. A person must be appointed to be responsible for the technical library. For the continuing airworthiness and maintenance regulations and other publications, it is acceptable to access this from the internet.
- 11.6 Arrangements must be made for the supply of amendments, so that all publications are kept up to date, and of any additional technical information relevant to the work undertaken.
- 11.7 Arrangements must be made for manuals or sections of manuals, schedules, service information, etc., appropriate to the work undertaken, to be made available and a suitable procedure maintained to ensure that such information is kept up to date.

12. Preparation of Balloon for Flight

DCA requirements Concerned with pre-flight action required to be taken by the balloon commanders prescribes that he/she satisfy himself that the balloon is fit in every way to make the intended flight. In order to permit the commander to discharge this responsibility, in respect of the maintenance of the balloon, the Operator must_

- (a) Ensure that the Operations Manual contains a DCA accepted pre-flight check to be completed by the crew, with which to verify that the balloon continues to be serviceable.
- (b) Provide information, in the Technical Log, to advise the commander when the next Scheduled Maintenance Inspection (SMI) is due (by flying hours and calendar time); of any defects existing on the balloon affecting its operational airworthiness and safety; and of any maintenance actions falling due before the next SMI;
- (c) Ensure that a procedure acceptable to the DCA exists for the control of maintenance actions necessary between SMIs where it may not be practicable to include full details in the Technical Log. In such cases it should be possible for flight crew to verify that no maintenance task is due or will become due before the

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end of the intended flight;

- (d) Provide any other information to the crew concerning the balloon and its systems, including changes resulting from modifications, which may affect the operation of the balloon; and
- (e) Have procedures, which will ensure that:
 - (i) fuel uplifted prior to flight is free from contamination;
 - (ii) re-fuelling of the balloon is carried out in a controlled manner taking into account essential safety measures for fire prevention;
 - (iii) proper attention is given to the rectification of recorded defects, compliance with the allowable defects list and any limitations imposed in respect of the period of flights, flying hours or calendar time;
 - (iv) the balloon is serviced and inspected as required by the approved maintenance programme or maintenance manual; and
 - (v) all emergency and survival equipment within the balloon is serviced and inspected as required by the approved maintenance programme or maintenance manual.

13. The Technical Log

13.1 The Operator's Technical Log system should comply with Part M, M.306 and shall be accepted by the DCA.

13.1.1 The Technical Log consists of a number of pages such as the Sector Record Page (SRP). Sample format contained in Appendix 1. In addition to the SRP, the Technical Log should contain the following information unless cross-referred elsewhere:

- Details of the registered name and address of the Operator, the aircraft type and the complete international registration marks of the aircraft.
- Details of any necessary maintenance support information that the aircraft commander needs to know. Such information would include how and whom to contact if maintenance engineering problems arise.
- Instructions on how to complete the Technical Log.

13.1.2 A Technical Log is required to be kept for any balloon operated for Public Transport and at the end of every flight (except as indicated below) the balloon commander must enter the following details:

- a) the times when the balloon took off and landed;
- b) particulars of any defect known to him if it affects the airworthiness or safe operation of the balloon (if there are no defects the balloon commander must make an entry to this effect);
- c) any other particulars required by the DCA; and
- d) his/her signature and the date.

13.2 If a number of consecutive flights occur within the same period of 24 hours

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commencing from the same launch site with the same balloon commander, all entries may be made at the end of the last flight unless a defect becomes known to the commander in the meantime which must be entered as it occurs.

14. Retention of Records

- 14.1 The aircraft's Technical Log or appropriate log must be retained by the Operator for a period of 36 months after the date of the last entry.
- 14.2 If the Operator ceases to be the Operator of the balloon, he remains responsible for transferring the records to any other person who becomes the Operator.
- 14.3 The Operator must send copies of the Technical Log to the Part M Subpart G organization as per the continuing airworthiness arrangement between both parties.

15. Procedures

Detailed instructions should be given to flight crew and the maintenance organization's inspectors in the Operations Manual on the manner in which the Technical Log is to be used and completed. These should be repeated in the Log itself if necessary to ensure a disciplined response by pilots and inspectors.

16. Continuing Airworthiness Management Exposition (CAME)

For Operators (or) that have contracted out the Part M Subpart G continuing airworthiness management, Operators must ensure that their Organization is listed in that contracted organization's CAME. The procedures regarding the obligations of the subcontracted organization as detailed in the continuing airworthiness management and maintenance arrangements will have been approved under the organization's Part M Subpart G approval. For the Operator's obligations, these procedures may either be contained in the Operations Manual or a cross-referred separate document. The details and procedures should include but not limited to_

- (a) The Operator's nominated continuing airworthiness coordinator duties and responsibilities.
- (b) Details of the continuing airworthiness management and maintenance support organizations.
- (c) Details of the continuing airworthiness management and maintenance arrangements.
- (d) Details of the maintenance contract.
- (e) Details of how unscheduled maintenance is managed.
- (f) Details of the approved maintenance programme or maintenance manual (including the approval references for each balloon).
- (g) Procedures to cover the Operators obligations as detailed in the Continuing Airworthiness arrangement.
- (h) Annual audit of the obligations contained in the 3rd party continuing airworthiness

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management and maintenance arrangement to ensure both the Operator and contracted organization(s) standards are being upheld.

- (i) Procedures for accessing technical airworthiness information (web based data is acceptable).
- (j) Procedures for the retention of Operator held maintenance records.
- (k) Safety requirements required to be followed during balloon handling on the ground or at the time of refueling/defueling, or while being housed inside a hangar.
- (l) Procedure for keeping balloon log books/work sheets.
- (m) Procedure of recording/reporting of all defects observed during inspection or during flight and recording of rectification work undertaken.
- (n) Procedure of embodying mandatory Modifications/Inspections
- (o) Technical Log completion procedures
- (p) Documentation to be supplied by the maintenance organization after maintenance.

17. Maintenance Organization Approvals

The Operators who want to get the hot air balloon maintenance organization approval shall apply in accordance with MCAR Part M or MCAR Part 145 to the DCA, on the proper form, together with prescribed fees.

18. Effective Date

This notice shall be effective on 1st October 2015.

Director General

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Appendix 1 to Airworthiness Notices A/60

Passenger Name	Wt:lb/kg	Permitted Lift lb/kg		CAPTAIN		Date
1.		Datum Temp	°C			
2.				Place		Time
3.				Dep		
4.		Press Alt	°C	Arr		
5.		Max Lift/1000 ft ³				
6.		Balloon Volume	x cu/ ft ³	Total hours BF		Next check
7.		Total Permitted lift	=	Hours this page		
8.		Total Lift Required	=	Total balloon hours		
9.		Under load	=	Next check due hrs		
10.		Last Minute Changes (LMCs)		Next check due date		
11.			+/-	Fuel Calculation		
12.			+/-	Planned Duration		
13.			+/-	Fuel Required		
14.		Total LMC				
15.		Original underload		Fuel Certificate		
CAPTAIN		Underload at T/O		Sign _____ Fuel loaded sufficient		
Empty Cyls. Weight		+	Loading Certificate		Check 'A' carried out	
Total Fuel at Dep.		+				
Empty Balloon Weight		+				
Total Lift Required						
Departure Weather		Source:		Time:		
Wind	Surface	Vis.	wx	Cloud	Temp.	QNH
NIL DEFECTS *		Capt's. Signature			Date	
No.	Defect		Action Taken			
Certifies that the work specified except as otherwise specified was carried out in accordance with Myanmar Civil Aviation Requirements Part-M and in respect to that work the aircraft is considered ready for release to service. Organization Approval Reference.			Item Nos	SIGNED	Authority	Date