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ADVISORY CIRCULAR

**AIRWORTHINESS
No. 06**

**Subject: MAINTENANCE OF AIRCRAFT &
CERTIFICATE OF MAINTENANCE REVIEW**

**Date Initiated: 05/07/2005
Initiated by: DGCA**

1. PURPOSE

This Advisory Circular (AC) provides information and guidance concerning an acceptable means of compliance with Regulation 11 of the Guyana Civil Aviation (Air Navigation) Regulations (GCARs) for the maintenance of aircraft and its equipment, and the issuance of Certificates of Maintenance Review (CMR).

2. CANCELLATION

This Advisory Circular (Airworthiness No. 06) cancels all previously issued Circulars/Publications relating to the subject.

3. Effectivity

This Advisory Circular affects all aircraft registered in Guyana and is effective September 01, 2005.

4. RELATED READING MATERIALS

- a. GCARs - Regulation 11.
- b. GARS - Part 5.6, 5.7 and 8.3.

5. MAINTENANCE OF AIRCRAFT

Introduction

- a. In accordance with Regulation 11 of the Guyana Civil Aviation (Air Navigation) Regulations (GCARs), an aircraft registered in Guyana having been issued with a Certificate of Airworthiness (C of A), shall not fly unless:
 - The aircraft and equipment and radio station must be maintained in an airworthy condition by an Approved Maintenance Organization (AMO).
 - The aircraft and equipment must be periodically inspected in accordance with the requirements of the Maintenance Schedule approved by the Director General of Civil Aviation (DGCA).
 - All Airworthiness Directives (ADs) issued by the state of manufacture of the aircraft must be complied with.

- ➔ All mandatory Service Bulletins (SBs) issued by the manufacturer of the aircraft must be complied with.
 - ➔ The aircraft is issued with a CMR at specified intervals in accordance with the Regulations and the aircraft Maintenance Schedule (MS), and that the maintenance of the aircraft and its equipment has been carried out in accordance with the MS.
 - ➔ All maintenance work done on the aircraft and its equipment must be issued with Certificates of Release to Service (CRS) in accordance with Regulations 13 of the GCARs, and recorded in the appropriate aircraft logbooks. *Refer to Advisory Circular No. 07, dated 05-07-2005 for Certificate of Release to Service information.*
- b. This Advisory Circular (AC) prescribes the procedures for approval of the Maintenance Schedule and issue of Certificates of Maintenance Review in respect of such aircraft.
 - c. For the purpose of this AC the term "Maintenance Schedule" means the Maintenance Schedule together with any associated Maintenance Program necessary to support the Maintenance Schedule. This documentation contains details of processes, which support maintenance activity. In parts of this AC, the expression "Maintenance Program" when used will define the Maintenance Schedule and its associated program requirements.
 - d. In addition to the requirements of this AC, an aircraft shall not fly for the purpose of public transport unless the Operator is the holder of an Air Operator's Certificate and that the aircraft flies in accordance with the terms of that certificate.

6. APPROVAL OF THE MAINTENANCE SCHEDULE

- a. The applicant shall submit to the DGCA for approval, a Maintenance Schedule (in duplicate, with one copy for retention by the GCAA).
- b. For certain aircraft the Maintenance Schedule may be based only on the traditional concepts of inspection, servicing, overhaul and replacements at specified periods (including manufacturer's recommendations and information derived from operation of aircraft on the worldwide fleet). In such cases, the Maintenance Schedule alone will normally be the means of compliance. In other aircraft, where other maintenance processes are applied e.g. statistical reliability programs which permit flexible adjustment of work content/inspection periods such programs shall also form part of the Maintenance Schedule.
- c. As a guideline to the contents of maintenance schedules to be submitted to the DGCA for approval, reference should be made to Supplement One to this AC.
- d. In the case of a large transport aircraft, the MS may be limited to a simple document which includes the applicants reference number, an amendment list, reference to the basic check cycle, procedures for implementation of the Schedule, standard procedures e.g. duplicate inspections, cross references to any reliability program and maintenance work cards and a list of any unscheduled inspections which are required for the continued airworthiness of the aircraft e.g. hard landing, lightning strike, together with such other material as the DGCA may specify.
- e. DGCA approval of the MS will be notified to the applicant by an Approval Document. In preparation of the Schedule, applicants will be required to have safeguards in place to ensure that:
 - ➔ The inspection period of any Airworthiness Directive which is consolidated into the Schedule cannot be included in any maintenance check escalation without the approval of the DGCA.

- Maintenance, airworthiness inspections, etc., associated with the type design approval (usually known as Certification Maintenance Requirements) cannot be escalated without the approval of the DGCA. In considering an application for an increase in or variation of, such a requirement the DGCA will always consult the National Regulatory Authority of the State responsible for the primary Type Certification of the aircraft concerned. Certification Maintenance Requirements are usually contained in the Airworthiness Limitations Section of a Maintenance Manual prepared in ATA100 format, but for older aircraft may be found in the Flight Manual or Type Certificate Data Sheet.
- f. After review of the Schedule and the acceptance of any required amendments, the DGCA will allocate a reference number and issue an Approval Document, which will state the requirements for implementation of the Maintenance Schedule, the requirements for certification of scheduled maintenance inspections and their periodicity including any limitations which the DGCA may impose in relation to the completion of particular maintenance checks or such other limitations as he sees fit. It should be noted that division of scheduled maintenance checks into smaller units is not acceptable without the prior agreement of the DGCA.
 - g. In the case of maintenance to be carried out by an organization (AMO) approved by the DGCA, consideration will be given to granting the Quality Manager of the organization, authorization to extend scheduled maintenance checks, component overhaul lives, etc., within limits which will be included in the DGCA Approval Document. Such authorizations do not apply to structural items or components which have mandatory life limits.
 - h. The tolerance period for such short term escalation will not be more than 10% for the maintenance inspection interval or for the individual component, engine, or aircraft without affecting safety. For higher checks such as "C" or "D" check, the tolerance may further be reduced to a lower percentage as the Director General of Civil Aviation may choose.
 - i. Whenever a tolerance is invoked and prior to its utilization, the aircraft shall be inspected to the degree necessary to ensure that it is airworthy, and in a satisfactory condition to operate for the period of the tolerance.
 - j. Any escalation exceeding that allowable under the approved maintenance schedule will need to be authorized by the DGCA. Escalation shall be used after careful analysis of aircraft history and its components. The operator shall have adequate procedures for invoking tolerances, and will require close monitoring to ensure that they do not conceal unsound maintenance practices, maintenance program deficiencies or poor management decisions.
 - k. In the approval of Maintenance Schedules, the DGCA will be prepared to give consideration to approval on a progressive basis, i.e. by approving maintenance checks to up to a certain level to allow time for a new start-up Operator to prepare maintenance data for the more significant maintenance checks.

7. CERTIFICATE OF MAINTENANCE REVIEW (CMR)

- 7.1 An aircraft in respect of which a Certificate of Airworthiness in either transport or aerial work category is in force shall be subjected to a maintenance review at specified intervals, in accordance with the Approval Document in the aircraft Maintenance Schedule. At completion of the review a Certificate of Maintenance Review shall be issued by the holder of an appropriately Type Rated AME License having at least two (2) categories and authorized by the AMO.

7.2 A CMR shall be issued after the signing engineer has at the time of review satisfied himself/herself in respect of the following aspects: -

- a. All maintenance specified in the approved MS has been carried out.
- b. All mandatory modifications and inspections have been complied with within the prescribed time periods.
- c. All the defects entered in the technical logbook have been rectified or deferred in accordance with the requirements of the aircraft approved Minimum Equipment List (MEL) or procedures approved by the Director General of Civil Aviation.
- d. All the required Certificates of Release to Service (CRS) have been issued in accordance with Regulations 13 of the GCARs.
- e. In the case of major AMOs, the DGCA will be prepared to consider procedures where the signatory to the CMR can be assisted in his investigations by subsidiary certifications made by the departments concerned e.g. planning, technical records, with the CMR signatory auditing the subsidiary investigations at his discretion. Such procedures will be subject to the inclusion of relevant requirements in the Maintenance Control Manual (MCM) or Maintenance Procedures Manual (MPM). Other AMOs will nominate senior Aircraft Maintenance Engineer to sign the CMR. The signatory shall have access to all Technical Records before the issue of the CMR.
- f. A CMR shall state that the Maintenance Review has been carried out in accordance with the GCARs, the date the Review was carried out, the due date for the next review, and the identity, including the authorization reference, of the AMO and certifying staff issuing the certificate. The CMR shall be issued in duplicate. One copy must be carried in the aircraft and the other kept elsewhere by the Operator for a period of 2 years after it has been issued.

The certificate shall be worded as follows:

CERTIFICATE OF MAINTENANCE REVIEW		
Name of Operator/AMO: _____	Location: _____	
Aircraft Type: _____	Nationality & Registration Mark _____	
I hereby certify that the Maintenance Review of this aircraft and its equipment as is necessary for its continued airworthiness has been carried out in accordance with the requirements of the Guyana Civil Aviation (Air Navigation) Regulations currently in force.		
The next maintenance review is due _____		
Signed _____ (AME)	License/Approval No _____	Date _____

7.3 Intervals Between Issue Of Certificates Of Maintenance Review

The CMR will be issued at intervals indicated in the approved Maintenance Schedule of the aircraft or any other Approval Document issued by the DGCA.

7.4 Persons Authorized To Sign/Issue Certificates Of Maintenance Review

The names of persons authorized to issue a CMR will be included in the MCM / MPM or referenced in the manual and kept separately for sake of convenience. A CMR shall be issued only by:

- a. The holder of an Aircraft Maintenance Engineer's License issued under the Guyana Civil Aviation (Air Navigation) Regulations, being a license which entitles him to issue that certificate, or
- b. The holder of an aircraft maintenance engineer's license issued under the law of the country other than Guyana and rendered valid by the DGCA in accordance with the privileges endorsed on the license, or
- c. A person authorized by the DGCA to issue a certificate in a particular case and in accordance with that authority.
- d. An AMO can authorize an AME personnel qualified and competent on the type of aircraft, to issue the CMR in accordance with the procedures in the MCM / MPM under the Quality control System in place.

8. RETENTION OF RECORDS

When all the relevant work has been carried out, a Certificate of Release to Service shall be entered in/attached to the appropriate logbooks and signed by the authorized persons. However:

- a. Where it is more convenient, the required particulars may be entered in a separate record, but an entry shall be made in the appropriate log book, containing a summary of the work carried out and a cross-reference to the document containing the CRS.
- b. Where an alternate record system has been agreed, the format and location of such certificates shall be in accordance with that agreement.
- c. CMRs shall be issued in duplicate. One copy shall be carried in the aircraft and the other shall be kept elsewhere than in the aircraft and preserved for a period of two years from the date of the expiry of the period of validity of the certificate or for such periods as may be required by the DGCA.



C. Ramphul

Director General of Civil Aviation

SUPPLEMENT TO THIS ADVISORY CIRCULAR

1. Maintenance Schedule Document

This Supplement provides information on the minimum requirements to be satisfied for the approval by the DGCA of Maintenance Schedules/Programs in respect of aircraft registered in Guyana. Following review of the schedule, the DGCA will advise the applicant of any additional requirements to be satisfied.

1.1 The General Contents Of A Maintenance Schedule

- a. The type/model and registration number(s) of the aircraft, engines and, where applicable, auxiliary power units and propellers.
- b. The name and address of the Operator.
- c. The Operator's reference identification of the MS, date of issue and issue number.
- d. A statement signed by the operator to the effect that the specified aircraft will be maintained to the Schedule and that the MS will be reviewed and updated at regular intervals.
- e. Contents of document and a list of effective pages.
- f. Check periods which reflect the anticipated utilization of the aircraft. Such utilization should be stated and include a tolerance of not more than 25%. In cases where utilization cannot be anticipated, calendar time limits should also be included.
- g. Procedures for the escalation of established check periods, where applicable and acceptable to the DGCA.
- h. Provision to record date and reference to approved amendments incorporated in the MS.
- i. Details of pre-flight maintenance tasks which are accomplished by maintenance staff and not included in the Operations Manual for action by flight crew.
- j. The tasks and periods (intervals/frequencies) at which each part of the aircraft, engines, APU's, propellers, accessories, equipment, instruments, electrical and avionics (including radio) apparatus and associated systems and installations should be inspected, together with the type and degree of inspection.
- k. The periods at which items, as appropriate, should be checked, cleaned, lubricated, replenished, adjusted and tested.
- l. Details of specific structural inspections or sampling programs.
- m. Details of the corrosion control program.
- n. The periods at which overhauls and replacements by new or overhauled parts should be made.
- o. The periods and procedures for the collection of engine health monitoring data.
- p. A cross-reference to other documents approved by the DGCA which contain details of maintenance tasks related to mandatory life limitations, Certification Maintenance Requirements and Airworthiness Directives (those inspection and modifications declared mandatory by the DGCA).

- q. Details of, or cross-reference to, any required reliability program or statistical methods of continuous surveillance.
- r. A statement that practices and procedures to satisfy the MS should be to the standards specified in the Type Certificate holder's maintenance instructions plus those maintenance practices declared as mandatory by the DGCA e.g. Duplicate Inspections on disturbed flying and power plant controls.
- s. Unscheduled inspections e.g. lightning strikes, hard landing, flying into severe turbulence, etc.

1.2 Maintenance Schedule Basis

- a. Operators aircraft MS should normally be based upon the Maintenance Review Board (MRB) Report, where available, and the Type Certificate holder's Maintenance Planning Document (MPD), together with any mandatory inspections or life limitations specified in the maintenance manual prepared in accordance with ATA 100.
- b. For newly certificated aircraft types, the DGCA will only approve MS, which are directly based on the MRB/MPD.
- c. For existing aircraft types it is permissible for the Operator to make comparisons with MS previously approved, but acceptance by the DGCA will be dependent upon the previous experience of, and proposed operations by, the aircraft Operator. In preparation of such program, the operator should take into account the aircraft/fleet utilization, cycles/landings, equipment fit and, in particular the experience of the AMO.
- d. Operators shall ensure that maintenance recommendations promulgated by the manufacturer of aircraft, engine, or other equipment in the form of Service bulletins, Service Letters or other information means are evaluated and incorporated into the Maintenance Schedule.
- e. Operators shall also review the MS on a periodic basis as referenced in the MCM / MPM to ensure its effectiveness for continued airworthiness of the aircraft or fleet of aircraft.

1.3 PRESERVATION OF MAINTENANCE SCHEDULE

All completed Maintenance Schedule packages must be preserved for a minimum period of 5 years unless directed otherwise by the DGCA.