

NCAR PART M

ACCEPTABLE MEANS OF COMPLIANCE

ISSUE 01
ISSUE DATE JULY 2010
REVISION 00
REVISION DATE 00

FOREWORD

This Acceptable Means of Compliance (AMC) has been prepared by Civil Aviation Authority of Nepal to implement the basic requirements in the NCAR part M. The AMC contains the some of the means to comply with the basic requirements in the part M. This forms the guidelines to the industry community.

.....
Ram Prasad Neupane
Director General
Civil Aviation Authority of Nepal

Section A

Subpart A General

Subpart B Accountability

AMC M.A.201 (h) Responsibilities

1. Reference to aircraft includes the components fitted to or intended to be fitted to the aircraft
2. The performance of ground de-icing and anti-icing activities does not require a NCAR 145 approval.
3. The requirement means that the operator is responsible for determining what maintenance is required, when it has to be performed and by whom and to what standard, in order to ensure the continued airworthiness of the aircraft being operated.
4. An operator should therefore have adequate knowledge of the design status type specification, customer options, airworthiness directives (AD), modifications, operational equipment) and required and performed maintenance. Status of aircraft design and maintenance should be adequately documented to support the performance of the quality system.
5. An operator should establish adequate co-ordination between flight operations and maintenance to ensure that both will receive all information on the condition of the aircraft necessary to enable both to perform their tasks.
6. The requirement does not mean that an operator himself performs the maintenance (this is to be done by a maintenance organisation approved under NCAR -145) but that the operator carries the responsibility for the airworthy condition of aircraft it operates and thus should be satisfied before the intended flight that all required maintenance has been properly carried out.
7. When an operator is not appropriately approved in accordance with NCAR-145, the operator should provide a clear work order to the maintenance contractor. The fact that an operator has contracted a maintenance organisation approved under NCAR -145 should not prevent it from checking at the maintenance facilities on any aspect of the contracted work if he wishes to do so to satisfy his responsibility for the airworthiness of the aircraft.

AMC M.A.201 (h) 1- Responsibilities

1. An operator only needs to be approved for the management of the continuing airworthiness of the aircraft listed on its AOC. The approval to carry out airworthiness reviews is optional.
2. This approval does not prevent the operator subcontracting certain continuing airworthiness management tasks to competent persons or organisations. This activity is considered as an integral element of the operator's M.A. Subpart G approval. The regulatory monitoring is

ISSUE 01

ISSUE DATE JULY 2010

REVISION 00

REVISION DATE 00

3

exercised through the operator's M.A. Subpart G. approval. The contracts should be acceptable to the CAAN .

3. The accomplishment of continuing airworthiness activities forms an important part of the operator's responsibility with the operator remaining accountable for satisfactory completion irrespective of any contract that may be established.

4. CAR M does not provide for organisations to be independently approved to perform continuing airworthiness management tasks on behalf of commercial air transport operators. The approval of such activity is vested in the operator's air operator's certificate (AOC). The sub-contracted organisation is considered to perform the continuing airworthiness management tasks as an integral part of the operator's continuing airworthiness management system, irrespective of any other approval held by the subcontractor including a M.A. Subpart G approval.

5. The operator is ultimately responsible and therefore accountable for the airworthiness of its aircraft. To exercise this responsibility the operator should be satisfied that the actions taken by sub-contracted organisations meet the standards required by M.A. Subpart G. The operator's management of such activities should therefore be accomplished.

- a) by active control through direct involvement and/or
- b) by endorsing the recommendations made by the sub-contracted organisation.

6. In order to retain ultimate responsibility the operator should limit sub-contracted tasks to the activities specified below:

- a) airworthiness directive analysis and planning
- b) service bulletin analysis
- c) planning of maintenance
- d) reliability monitoring, engine health monitoring
- e) maintenance programme development and amendments
- f) any other activities which do not limit the operators responsibilities as agreed by the CAAN .

7. The operator's management controls associated with sub-contracted continuing airworthiness management tasks should be reflected in the associated written contract and be in accordance with the operator's policy and procedures defined in his continuing airworthiness management exposition. When such tasks are sub-contracted the operator's continuing airworthiness management system is considered to be extended to the subcontracted organisation.

8. With the exception of engines and auxiliary power units contracts would normally be limited to one organisation per aircraft type for any combination of the activities described in Appendix II. Where arrangements are made with more than one organization the operator should demonstrate adequate coordination controls are in place and that the individual responsibilities are clearly defined in related contracts.

9. Contracts should not authorize the sub-contracted organisation to sub-contract to other organisations elements of the continuing airworthiness management tasks.

10. The operator should ensure that any findings arising from the CAAN monitoring of the subcontracted continuing airworthiness management tasks will be closed to the satisfaction of the CAAN. This provision should be included in the contract.

11. The sub-contracted organisation should agree to notify the respective operators of any changes affecting the contracts as soon as practical. The operator should then inform its CAAN. Failure to do so may invalidate the CAAN acceptance of the contract.

12. Appendix II provides information on the sub-contracting of continuing airworthiness management tasks.

13. The operator should only sub contract to organisations which are specified by the CAAN on the AOC or CAAN Form 14 (Appendix-VI) as applicable.

AMC M.A.201 (h) 2- Responsibilities

1. The requirement is intended to provide for the possibility of the following three alternative options:

- a) an operator to be approved in accordance with NCAR 145 to carry out all maintenance of the aircraft and components;
- b) an operator to be approved in accordance with NCAR 145 to carry out some of the maintenance of the aircraft and components. This, at minimum, could be limited line maintenance but may be considerably more but still short of option (a);
- c) An operator not approved in accordance with NCAR 145 to carry out any maintenance.

2. An operator or prospective operator may apply for any one of these options but it will be for CAAN to determine which option may be accepted in each particular case.

2.1 To make this determination CAAN will apply the primary criteria of relevant operator experience if carrying out some or all maintenance on comparable aircraft. Therefore where an operator applies for option (a) – all maintenance – CAAN will need to be satisfied that the operator has sufficient experience of carrying out all maintenance on a comparable type. For example, assuming that the experience is judged satisfactory, then it is reasonable from the maintenance viewpoint to add a different wide bodied aircraft to an existing wide bodied fleet. If the experience is not satisfactory or too limited, CAAN may choose either to require more experienced management and/or more experienced release to service staff or may refuse to accept the new wide bodied aircraft if extra experienced staff cannot be found. Option (b) or (c) may be possible alternatives.

2.2 Where an operator applies for option (b) – some maintenance or CAAN has been unable to accept an application for option (a) – then satisfactory experience is again the key but in this case the satisfactory experience is related to the reduced maintenance of this option. If the experience is not satisfactory or too limited CAAN may choose to require more experienced staff or may refuse to accept the application if such staff cannot be found. Option (c) may be the possible alternative. Option (c) accepts that the operator either does not have satisfactory experience or has only limited experience of some maintenance.

2.3 The CAAN will require an operator to enter into a contract with an appropriately approved NCAR 145 organisation except in those cases where CAAN believes that it is possible to obtain sufficient satisfactorily experienced staff to provide the minimal maintenance support for option (b), in which case option (b) would apply.

2.4 In respect of this paragraph, 'experience' means staff who have proven evidence that they were directly involved with at least line maintenance of similar aircraft types for not less than 12 months. Such experience should be demonstrated to be satisfactory. An operator is required to have enough personnel meeting the requirement of M.A.706 to manage the maintenance responsibility whichever option is used.

AMC M.A.202 (a) Occurrence reporting

Accountable persons or organisations should ensure that the type certificate (TC) holder receives adequate reports of occurrences for that aircraft type, to enable it to issue appropriate service instructions and recommendations to all owners or operators.

Liaison with the TC holder is recommended to establish whether published or proposed service information will resolve the problem or to obtain a solution to a particular problem.

An approved continuing airworthiness management or maintenance organisation should assign responsibility for coordinating action on airworthiness occurrences and for initiating any necessary further investigation and follow-up activity to a suitably qualified person with clearly defined authority and status.

In respect of maintenance, reporting a condition that could seriously hazard the aircraft is normally limited to:

- serious cracks, permanent deformation, burning or serious corrosion of structure found during scheduled maintenance of the aircraft or component.
- failure of any emergency system during scheduled testing.

AMC M.A.202 (b) Occurrence reporting

The reports may be transmitted by any method i.e. electronically, by post or by facsimile. Each report should contain at least the following information:

- Reporter or organisations name and approval reference if applicable,
- Information necessary to identify the subject aircraft and or component,
- date and time relative to any life or overhaul limitation in terms of flying hours/cycles/landings etc. as appropriate, details of the occurrence.

Sub Part C – Continuing Airworthiness

AMC M.A.301 -1- Continuing airworthiness tasks

1. With regard to the pre-flight inspection it is intended to mean all of the actions necessary to ensure that the aircraft is fit to make the intended flight. These should typically include but are not necessarily limited to:

a) a walk-around type inspection of the aircraft and its emergency equipment for condition including, in particular, any obvious signs of wear, damage or leakage. In addition, the presence of all required equipment including emergency equipment should be established.

b) an inspection of the aircraft continuing airworthiness record system or the operators technical log as applicable to ensure that the intended flight is not adversely affected by any outstanding deferred defects and that no required maintenance action shown in the maintenance statement is overdue or will become due during the flight.

c) a control that consumable fluids, gases etc. uplifted prior to flight are of the correct specification, free from contamination, and correctly recorded.

d) a control that all doors are securely fastened.

e) a control that control surface and landing gear locks, pitot/static covers, restraint devices and engine/aperture blanks have been removed.

f) a control that all the aircraft's external surfaces and engines are free from ice, snow, sand, dust etc.

2. Tasks such as oil and hydraulic fluid uplift and tyre inflation may be considered as part of the pre-flight inspection. The related pre-flight inspection instructions should address the procedures to determine where the necessary uplift or inflation results from an abnormal consumption and possibly requires additional maintenance action by the approved maintenance organisation or certifying staff as appropriate.

3. In the case of commercial air transport, an operator should publish guidance to maintenance and flight personnel and any other personnel performing pre-flight inspection tasks, as appropriate, defining responsibilities for these actions and, where tasks are contracted to other organisations, how their accomplishment is subject to the quality system of M.A.712. It should be demonstrated to CAAN that pre-flight inspection personnel have received appropriate training for the relevant pre-flight inspection tasks. The training standard for personnel performing the pre-flight inspection should be described in the operator's continuing airworthiness management exposition.

AMC M.A.301 - 2- Continuing airworthiness tasks

In the case of commercial air transport the operator should have a system to ensure that all defects affecting the safe operation of the aircraft are rectified within the limits prescribed by the approved minimum equipment list (MEL) or configuration deviation list (CDL) as appropriate.

Also that such defect rectification cannot be postponed unless agreed by the operator and in accordance with a procedure approved by CAAN. In the case of commercial air transport or large aircraft, a system of assessment should be in operation to support the continuing airworthiness of an aircraft and to provide a continuous analysis of the effectiveness of the M.A. Subpart G approved continuing airworthiness management organisation's defect control system in use. The system should provide for:

- a) significant incidents and defects: monitor incidents and defects that have occurred in flight and defects found during maintenance and overhaul, highlighting any that appear significant in their own right.
- b) repetitive incidents and defects: monitor on a continuous basis defects occurring in flight and defects found during maintenance and overhaul, highlighting any that are repetitive.
- c) deferred and carried forward defects: Monitor on a continuous basis deferred and carried forward defects. Deferred defects are defined as those defects reported in operational service which is deferred for later rectification. Carried forward defects are defined as those defects arising during maintenance which are carried forward for rectification at a later maintenance input.
- d) unscheduled removals and system performance: analyse unscheduled component removals and the performance of aircraft systems for use as part of the maintenance programme efficiency. When deferring or carrying forward a defect the cumulative effect of a number of deferred or carried forward defects occurring on the same aircraft and any restrictions contained in the MEL should be considered. Whenever possible, deferred defects should be made known to the pilot/flight crew prior to their arrival at the aircraft.

AMC M.A.301 - 3- Continuing airworthiness tasks

The owner or the M.A. Subpart G approved continuing airworthiness management organisation as applicable should have a system to ensure that all aircraft maintenance checks are performed within the limits prescribed by the approved aircraft maintenance programme and that, whenever a maintenance check cannot be performed within the required time limit, its postponement is allowed in accordance with a procedure agreed by CAAN .

AMC M.A.301 - 4- Continuing airworthiness tasks

The operator or the contracted M.A. Subpart G approved organisation as applicable should have a system to analyse the effectiveness of the maintenance programme, with regard to spares, established defects, malfunctions and damage, and to amend the maintenance programme accordingly

AMC M.A.301 -5- Continuing Airworthiness Tasks

Operational directives with a continuing airworthiness impact include operating rules such as extended twin-engine operations (ETOPS) / long range operations (LROPS), reduced vertical separation minima (RVSM), MNPS, all weather operations (AWOPS), RNAV, etc. Any other continued airworthiness requirement made mandatory by the CAAN includes TC related

requirements such as: certification maintenance requirements (CMR), certification life limited parts, airworthiness limitations, etc.

AMC M.A.301 - 7- Continuing airworthiness tasks

An operator or a contracted M.A. Subpart G approved organisation as applicable should establish and work to a policy, which assesses non-mandatory information related to the airworthiness of the aircraft. Non mandatory information such as service bulletins, service letters and other information is that produced for the aircraft and its components by an approved design organisation, the manufacturer, CAAN

AMC M.A.302 Maintenance Programme

1. The term “maintenance programme” is intended to include scheduled maintenance tasks, the associated procedures and standard maintenance practices. The term “maintenance schedule” is intended to embrace the scheduled maintenance tasks alone.
2. The aircraft should only be maintained to one approved maintenance programme at a given point in time. Where an owner or operator wishes to change from one approved programme to other, a transfer check or inspection may need to be performed in order to implement the change.
3. The maintenance programme details should be reviewed at least annually. As a minimum revisions of documents affecting the programme basis need to be considered by the owner or operator for inclusion in the maintenance programme during the annual review. Applicable mandatory requirements for compliance with CAR 21 should be incorporated into the owner or operator’s maintenance programme as soon as possible
4. The aircraft maintenance programme should contain a preface which will define the maintenance programme contents, the inspection standards to be applied, permitted variations to task frequencies and where applicable, any procedure to manage the evolution of established check or inspection intervals.

Appendix 1 to AMC M.A.302 provides detailed information on the contents of an approved aircraft maintenance programme.

5. The approved aircraft maintenance programme should reflect applicable mandatory regulatory requirements addressed in documents issued by the TC holder to comply with EASA Part 21/ FAA Part 21 requirement.
6. Repetitive maintenance tasks derived from modifications and repairs should be incorporated into the approved maintenance programme.

AMC M.A.302(c) Maintenance programme compliance

1. An owner or operator’s maintenance programme should normally be based upon the maintenance review board (MRB) report where applicable, the maintenance planning document (MPD), the relevant chapters of the maintenance manual or any other maintenance data containing information on scheduling. Furthermore, an owner or operator’s maintenance

programme should also take into account any maintenance data containing information on scheduling for components.

2. Instructions issued by CAAN can encompass all types of instructions from a specific task for a particular aircraft to complete recommended maintenance schedules for certain aircraft types that can be used by the owner/operator directly.

3. Where an aircraft type has been subjected to the MRB report process, an operator should normally develop the initial operator's aircraft maintenance programme based upon the MRB report.

4. Where an aircraft is maintained in accordance with an aircraft maintenance programme based upon the MRB report process, any associated programme for the continuous surveillance of the reliability, or health monitoring of the aircraft should be considered as part of the aircraft maintenance programme.

5. Aircraft maintenance programmes for aircraft types subjected to the MRB report process should contain identification cross reference to the MRB report tasks such that it is always possible to relate such tasks to the current approved aircraft maintenance programme. This does not prevent the approved aircraft maintenance programme from being developed in the light of service experience to beyond the MRB report recommendations but will show the relationship to such recommendations

6. Some approved aircraft maintenance programmes, not developed from the MRB process, utilize reliability programmes. Such reliability programmes should be considered as a part of the approved maintenance programme.

AMC M.A.302 (d) Maintenance programme - reliability programmes.

1. Reliability programmes should be developed for aircraft maintenance programmes based upon maintenance steering group (MSG) logic or those that include condition monitored components or that do not contain overhaul time periods for all significant system components.

2. Reliability programmes need not be developed for aircraft not considered as large aircraft or that contain overhaul time periods for all significant aircraft system components.

3. The purpose of a reliability programme is to ensure that the aircraft maintenance programme tasks are effective and their periodicity is adequate.

4. The reliability programme may result in the escalation or deletion of a maintenance task, as well as the de-escalation or addition of a maintenance task

5. A reliability programme provides an appropriate means of monitoring the effectiveness of the maintenance programme.

6. Appendix 1 to AMC M.A.302 and M.B.301 (d) gives further guidance.

AMC M.A.304 Data for modifications and repairs

A person or organisation repairing an aircraft or component should assess the damage against published approved repair data and the action to be taken if the damage is beyond the limits or outside the scope of such data. This could involve any one or more of the following options; repair by replacement of damaged parts, requesting technical support from the type certificate holder or from an organisation approved in accordance with EASA Part 21/FAA Part 21 and finally CAAN approval of the particular repair data.

AMC M.A.305 (d) Aircraft continuing airworthiness record system

Information on times, dates, cycles etc. should give an overall picture on the state of maintenance of the aircraft and its components. The current status of all service life-limited aircraft components should indicate the component life limitation, total number of hours, accumulated cycles or calendar time and the number of hours/cycles/time remaining before the required retirement time of the component is reached. The current status of AD should identify the applicable AD including revision or amendment numbers. Where an AD is generally applicable to the aircraft or component type but is not applicable to the particular aircraft or component, then this should be identified.

The AD status includes the date when the AD was accomplished, and where the AD is controlled by flight hours or flight cycles it should include the aircraft or engine or component total flight hours or cycles, as appropriate. For repetitive ADs, only the last application should be recorded in the AD status. The status should also specify which part of a multi-part directive has been accomplished and the method, where a choice is available in the AD. The status of current modification and repairs means a list of embodied modification and repairs together with the substantiating data supporting compliance with the airworthiness requirements. This can be in the form of a Supplemental Type Certificate (STC), SB, Structural Repair Manual (SRM) or similar approved document. The substantiating data may include:

- a) compliance programme; and,
- b) master drawing or drawing list, production drawings, and installation instructions; and,
- c) engineering reports (static strength, fatigue, damage tolerance, fault analysis, etc.); and,
- d) ground and flight test programme and results; and,
- e) mass and balance change data; and,
- f) maintenance and repair manual supplements; and,
- g) maintenance programme changes and instructions for continuing airworthiness; and,
- h) aircraft flight manual supplement.

Some gas turbine engines are assembled from modules and a true total time in service for a total engine is not kept. When owners and operators wish to take advantage of the modular design, then total time in service and maintenance records for each module is to be maintained. The continuing airworthiness records as specified are to be kept with the module and should show compliance with any mandatory requirements pertaining to that module.

AMC M.A.305 (h) Aircraft continuing airworthiness record system

When an owner/operator arranges for the relevant maintenance organisation to retain copies of the continuing airworthiness records on their behalf, the owner/operator will continue to be responsible for the retention of records. If they cease to be the owner/operator of the aircraft, they also remain responsible for the transferring the records to any other person who becomes the owner/operator of the aircraft.

Keeping continuing airworthiness records in a form acceptable to CAAN normally means in paper form or on a computer database or a combination of both methods. Records stored in microfilm or optical disc form are also acceptable. All records should remain legible throughout the required retention period.

Paper systems should use robust material, which can withstand normal handling and filing. Computer systems should have at least one backup system, which should be updated at least within 24 hours of any maintenance. Each terminal is required to contain programme safeguards against the ability of unauthorised personnel to alter the database.

Details of current modifications and repairs include the data supporting compliance with the airworthiness requirements. This can be in the form of a STC, SB, SRM or similar document.

Continuing airworthiness records should be stored in a safe way with regard to fire, flood, theft and alteration. Computer backup discs, tapes etc., should be stored in a different location from that containing the current working discs, tapes, etc. and in a safe environment. Reconstruction of lost or destroyed records can be done by reference to other records which reflect the time in service, research of records maintained by repair facilities and reference to records maintained by individual mechanics etc. When these things have been done and the record is still incomplete, the owner/operator may make a statement in the new record describing the loss and establishing the time in service based on the research and the best estimate of time in service. The reconstructed records should be submitted to CAAN for acceptance.

NOTE: Additional maintenance may be required.

AMC M.A.305 (h) 6- Aircraft continuing airworthiness record system

For the purpose of this paragraph, a “component vital to flight safety” means a component that includes certified life limited parts or is subject to airworthiness limitations or a major component such as, undercarriage or flight controls.

AMC M.A.306 (a) Operators technical log system

For commercial air transport the operator’s aircraft technical log is a system for recording defects and malfunctions during the aircraft operation and for recording details of all maintenance carried out on an aircraft between scheduled base maintenance visits. In addition, it is used for recording flight safety and maintenance information the operating crews need to know.

Cabin or galley defects and malfunctions that affect the safe operation of the aircraft or the safety of its occupants are regarded as forming part of the aircraft log book where recorded by another means.

The operator's aircraft technical log system may range from a simple single section document to a complex system containing many sections but in all cases it should include the information specified for the example used here which happens to use a 5 section document / computer system:

Section 1 should contain details of the registered name and address of the operator the aircraft type and the complete international registration marks of the aircraft.

Section 2

should contain details of when the next scheduled maintenance is due, including, if relevant any out of phase component changes due before the next maintenance check. In addition this section should contain the current certificate of release to service (CRS), for the complete aircraft, issued normally at the end of the last maintenance check.

NOTE: The flight crew do not need to receive such details if the next scheduled maintenance is controlled by other means acceptable to CAAN.

Section 3 should contain details of all information considered necessary to ensure continued flight safety. Such information includes:

- i) the aircraft type and registration mark.
- ii) the date and place of take-off and landing.
- iii) the times at which the aircraft took off and landed.
- iv) the running total of flying hours, such that the hours to the next schedule maintenance can be determined. The flight crew does not need to receive such details if the next scheduled maintenance is controlled by other means acceptable to CAAN .
- v) details of any failure, defect or malfunction to the aircraft affecting airworthiness or safe operation of the aircraft including emergency systems, and any failure, defect or malfunctions in the cabin or galleys that affect the safe operation of the aircraft or the safety of its occupants that are known to the commander. Provision should be made for the commander to date and sign such entries, including, where appropriate, the nil defect state for continuity of the record. Provision should be made for a CRS following rectification of a defect or any deferred defect or maintenance check carried out. Such a certificate appearing on each page of this section should readily identify the defect(s) to which it relates or the particular maintenance checks as appropriate.
- vi) the quantity of fuel and oil uplifted and the quantity of fuel available in each tank, or combination of tanks, at the beginning and end of each flight; provision to show, in the same units of quantity, both the amount of fuel planned to be uplifted and the amount of fuel actually

uplifted; provision for the time when ground de-icing and/or anti-icing was started and the type of fluid applied, including mixture ratio fluid/water.

vii) the pre-flight inspection signature.

In addition to the above it may be necessary to record the following supplementary information:

The time spent in particular engine power ranges where use of such engine power affects the life of the engine or engine module. These are two examples thereof:

- the number of landings where landings affect the life of an aircraft or aircraft component.
- flight cycles or flight pressure cycles where such cycles affect the life of an aircraft or aircraft component.

NOTE 1: Where Section 3 is of the multi-sector 'part removable' type then such 'part removable' sections should contain all of the foregoing information where appropriate.

NOTE 2: Section 3 should be designed such that one copy of each page may remain on the aircraft and one other copy may be retained on the ground until completion of the flight to which it relates.

NOTE 3: Section 3 lay-out should be divided to show clearly what is required to be completed after flight and what is required to be completed in preparation for the next flight.

Section 4 should contain details of all deferred defects that affect or may affect the safe operation of the aircraft and should therefore be known to the aircraft commander. Each page of this section should be pre-printed with the operator's name and page serial number and make provision for recording the following:

- i) a cross reference for each deferred defect such that the original defect can be identified in the particular section 3 sector record page.
- ii) the original date of occurrence of the defect deferred.
- iii) brief details of the defect.
- iv) details of the eventual rectification carried out and its CRS or a clear cross-reference back to the document that contains details of the eventual rectification.

Section 5

should contain any necessary maintenance support information that the aircraft commander needs to know. Such information would include data on how to contact maintenance engineering if problems arise whilst operating the routes etc.

AMC M.A.306 (b) Operators technical log system

The aircraft technical log system can be either a paper or computer system or any combination of both methods acceptable to CAAN . In case of a computer system, it should contain programme safeguards against the ability of unauthorised personnel to alter the database.

AMC M.A.307 (a) Transfer of aircraft continuing airworthiness records

Where an owner/operator terminates his operation, all retained continuing airworthiness records should be passed on to the new owner/operator or stored.

A “permanent transfer” does not generally include the dry lease-out of an aircraft when the duration of the lease agreement is less than 6 months. However CAAN should be satisfied that all continuing airworthiness records necessary for the duration of the lease agreement are transferred to the lessee or made accessible to them.

Sub Part D – Maintenance Standards

AMC M.A.401 (b) Maintenance data

1. Except as specified in sub-paragraph 2, each person or organisation performing aircraft maintenance should have access to and use:

a) all maintenance related CAR's and associated AMC's, together with the maintenance related guidance material,

b) all applicable maintenance requirements and notices such as CAAN standards and specifications that have not been superseded by a requirement, procedure or directive,

c) all applicable airworthiness directives,

d) the appropriate sections of the aircraft maintenance programme, aircraft maintenance manual, repair manual, supplementary structural inspection document, corrosion control document, service bulletins, service sheets modification leaflets, non destructive inspection manual, parts catalogue, type certificate data sheets as required for the work undertaken and any other specific document issued by the type certificate or supplementary type certificate holder's maintenance data, except that in the case of operator or customer provided maintenance data it is not necessary to hold such provided data when the work order is completed.

2. In addition to sub-paragraph 1, for components each organisation performing aircraft maintenance should hold and use the appropriate sections of the vendor maintenance and repair manual, service bulletins and service letters plus any document issued by the type certificate holder as maintenance data on whose product the component may be fitted when applicable, except that in the case of operator or customer provided maintenance data it is not necessary to hold such provided data when the work order is completed.

AMC M.A.401(c) Maintenance data

1. Data being made available to personnel maintaining aircraft means that the data should be available in close proximity to the aircraft or component being maintained, for mechanics and certifying staff to perform maintenance.

2. Where computer systems are used, the number of computer terminals should be sufficient in relation to the size of the work programme to enable easy access, unless the computer system can produce paper copies. Where microfilm or microfiche readers/printers are used, a similar requirement is applicable.

3. Maintenance tasks should be transcribed onto the work cards or worksheets and subdivided into clear stages to ensure a record of the accomplishment of the maintenance task. Of particular importance is the need to differentiate and specify, when relevant, disassembly, accomplishment of task, reassembly and testing. In the case of a lengthy maintenance task involving a succession of personnel to complete such task, it may be necessary to use supplementary work cards or worksheets to indicate what was actually accomplished by each individual person. A worksheet or work card system should refer to particular maintenance tasks.

4. Maintenance data should be kept up to date by:

- subscribing to the applicable amendment scheme,
- checking that all amendments are being received,
- monitoring the amendment status of all data.

AMC M.A.402 (a) Performance of maintenance

1. When working outside the scope of an approved maintenance organisation personnel not authorised to issue a CRS should work under the supervision of certifying personnel. They may only perform maintenance that their supervisor is authorised to release, if the supervisor personally observes the work being carried out to the extent necessary to ensure that it is being done properly and if the supervisor is readily available, in person, for consultation. In this case licensed engineers should ensure that each person maintaining an aircraft or component has had appropriate training or relevant previous experience and is capable of performing the task required, and that personnel who carry out specialised tasks such as welding shall hold relevant certificate of competency.

2. In the case of limited pilot owner maintenance as specified in M.A.803, any person maintaining an aircraft should have had appropriate training or relevant previous experience as accepted by CAAN and be capable of performing the task required.

3. The general maintenance and inspection standards applied to individual maintenance tasks should meet the recommended standards and practices of the organisation responsible for the type design which are normally published in the maintenance manuals. In the absence of maintenance and inspection standards published by organisation responsible for the type design maintenance personnel should refer to the relevant aircraft airworthiness standards and procedures published or used as guidance by CAAN. The maintenance standards used should contain methods, techniques and practices acceptable to CAAN for the maintenance of aircraft and its components.

4. Independent inspections.

4.1 The manufactures instructions for continued airworthiness should be followed when determining the need for an independent inspection.

4.2 In the absence of maintenance and inspection standards published by organization responsible for the type design, maintenance tasks that involve the assembly or any disturbance of a control system that, if errors occurred, could result in a failure, malfunction, or defect endangering the safe operation of the aircraft should be considered as flight safety sensitive maintenance tasks needing an independent inspection. A control system is an aircraft system by which the flight path, attitude, or propulsive force of the aircraft is changed, including the flight, engine and propeller controls, the related system controls and the associated operating mechanisms.

4.3 Independent inspections should be carried out by at least two persons, to ensure correct assembly, locking and sense of operation. A technical record of the inspections should contain the signatures of both persons before the relevant CRS is issued.

4.3.1 An independent inspection is an inspection first made by an authorised person signing the maintenance release who assumes full responsibility for the satisfactory completion of the work, before being subsequently inspected by a second independent competent person who attests to the satisfactory completion of the work recorded and that no deficiencies have been found.

4.3.2 The second independent competent person is not issuing a maintenance release therefore is not required to hold certification privileges. However they should be suitably qualified to carry out the inspection.

4.4 When work is being done under the control of an approved maintenance organization the organisation should have procedures to demonstrate that the signatories have been trained and have gained experience on the specific control systems being inspected.

4.5. When work is being undertaken by an independent M.A.801 (b) 2 certifying staff, the qualifications and experience of the second independent competent person should be directly assessed by the person certifying for the maintenance, taking into account the individual's training and experience. It should not be acceptable for the certifying staff signing the release to show the person performing the independent inspection how to perform the inspection at the time the work is completed.

4.6 In summary the following maintenance tasks should primarily be considered when inspecting aircraft control systems that have been disturbed:

- installation, rigging and adjustment of flight controls.
- installation of aircraft engines, propellers and rotors.
- overhaul, calibration or rigging of components such as engines, propellers, transmissions and gearboxes.

Consideration should also be given to:

- previous experience of maintenance errors depending on the consequences of the failure.
- information arising from an 'occurrence reporting system'

4.7 When checking control systems that have undergone maintenance the person signing the maintenance release and the person performing the independent check should consider the following points independently:

- all those parts of the system that have actually been disconnected or disturbed should be inspected for correct assembly and locking.
- the system as a whole should be inspected for full and free movement over the complete range.
- cables should be tensioned correctly with adequate clearance at secondary stops.
- the operation of the control system as a whole should be observed to ensure that the controls are operating in the correct sense.
- if the control system is duplicated to provide redundancy, each system should be checked separately.

- if different control systems are interconnected so that they affect each other, all the interactions should be checked through the full range of the applicable controls.

AMC M.A.402 (b) Performance of maintenance

When performing maintenance, personnel are required to use the tools, equipment and test apparatus necessary to ensure completion of work in accordance with accepted maintenance and inspection standards. Inspection, service or calibration on a regular basis should be in accordance with the equipment manufacturers' instructions. All tools requiring calibration should be traceable to an acceptable standard.

If the organisation responsible for the type design involved recommends special equipment or test apparatus, personnel should use the recommended equipment or apparatus or equivalent equipment accepted by CAAN . All work should be performed using materials of such quality and in a manner, that the condition of the aircraft or its components after maintenance will be at least equal to its original or modified condition (with regard to aerodynamic function, structural strength, resistance to vibration, deterioration and any other qualities affecting airworthiness).

AMC M.A.402 (d) Performance of maintenance

The working environment should be appropriate for the maintenance task being performed such that the effectiveness of personnel is not impaired.

- a) Temperature should be maintained such that personnel can perform the required tasks without undue discomfort.
- b) Airborne contamination (e.g. dust, precipitation, paint particles, filings) should be kept to a minimum to ensure aircraft/components surfaces are not contaminated, if this is not possible all susceptible systems should be sealed until acceptable conditions are re-established.
- c) Lighting should be adequate to ensure each inspection and maintenance task can be performed effectively.
- d) Noise levels should not be allowed to rise to the level of distraction for inspection staff or if this is not possible inspection staff should be provided with personnel equipment to reduce excessive noise.

AMC M.A.402 (e) Performance of maintenance

Facilities should be provided appropriate for all planned maintenance. This may require aircraft hangars that are both available and large enough for the planned maintenance. Aircraft component workshops should be large enough to accommodate the components that are planned to be maintained. Protection from inclement weather means the hangar or component workshop structures should be to a standard that prevents the ingress of rain, hail, ice, snow, wind and dust etc.

AMC M.A.403 (b) Aircraft defects

An assessment of both the cause and any potentially hazardous effect of any defect or combination of defects that could affect flight safety should be made in order to initiate any necessary further investigation and analysis necessary to identify the root cause of the defect.

AMC M.A.403 (d) Aircraft defects

All deferred defects should be made known to the pilot/flight crew, whenever possible, prior to their arrival at the aircraft. Deferred defects should be transferred on to worksheets at the next appropriate maintenance check, and any deferred defect which is not rectified during the maintenance check, should be re-entered on to a new deferred defect record sheet. The original date of the defect should be retained. The necessary components or parts needed for the rectification of defects should be made available or ordered on a priority basis, and fitted at the earliest opportunity.

Sub Part E – Components

AMC M.A.501 (a) – Installation

1. To ensure a component is in a satisfactory condition, the person referred to under M.A.801 or the approved maintenance organisation should perform checks and verifications.
2. Performance of above checks and verifications should take place before the component is installed on the aircraft.
3. The following list, though not exhaustive, contains typical checks to be performed:
 - a) verify the general condition of components and their packaging in relation to damages that could affect the integrity of the components;
 - b) verify that the shelf life of the component has not expired;
 - c) verify that items are received in the appropriate package in respect of the type of component: e.g. correct ATA 300 or electrostatic sensitive devices packaging, when necessary;
 - d) verify that component has all plugs and caps appropriately installed to prevent damage or internal contamination. Tape should not be used to cover electrical connections or fluid fittings/openings because adhesive residues can insulate electrical connections and contaminate hydraulic or fuel units.
4. The purpose of the CAAN Form 1 (see also CAR M Appendix II) is to release components after manufacture and to release maintenance work carried out on such components under the approval of a CAAN and to allow components removed from one aircraft/component to be fitted to another aircraft/ component.
5. For the purpose of CAR - M, a document equivalent to a CAAN Form 1 may be:
 - EASA Form ONE
 - FAA Form 8130-3
 - Any other form acceptable to CAAN.
6. Any item in storage without a CAAN Form 1 or equivalent cannot be installed on aircraft registered in Nepal unless a CAAN Form 1 or equivalent is issued for such item by an appropriately approved maintenance organisation in accordance with AMC M.A.613 (a)

AMC M.A.501 (b) – Installation

1. The CAAN Form 1 identifies the airworthiness and eligibility status of an aircraft component. Block 13 "Remarks" on the CAAN Form 1 in some cases contains vital airworthiness related information (see also CAR M Appendix II) which may need appropriate and necessary actions
2. The fitment of a replacement components/material should only take place when the person referred to under M.A.801 or the M.A. Subpart F maintenance organisation is satisfied that such

components/material meet required standards in respect of manufacture or maintenance, as appropriate.

3. The person referred to under M.A.801 or the M.A. Subpart F approved maintenance organization should be satisfied that the component in question meets the approved data/standard, such as the required design and modification standards. This may be accomplished by reference to the TC holder or manufacturer's parts catalogue or other approved data (i.e. SB). Care should also be exercised in ensuring compliance with applicable AD and the status of any service life limited parts fitted to the aircraft component.

AMC M.A.501(c) – Installation

1. Standard parts are parts manufactured in complete compliance with an established industry, CAAN or other Government specification which includes design, manufacturing, test and acceptance criteria, and uniform identification requirements. The specification should include all information necessary to produce and verify conformity of the part. It should be published so that any party may manufacture the part. Examples of specifications are National Aerospace Standards (NAS), Army-Navy Aeronautical Standard (AN), Society of Automotive Engineers (SAE), SAE Sematec, Joint Electron Device Engineering Council, Joint Electron Tube Engineering Council, and American National Standards Institute (ANSI), EN Specifications etc...

2. To designate a part as a standard part the TC holder may issue a standard parts manual accepted by competent authority of original TC holder or may make reference in the parts catalogue to a national/international specification (such as a standard diode/capacitor etc) not being an aviation only specification for the particular part.

3. Documentation accompanying standard parts should clearly relate to the particular parts and contain a conformity statement plus both the manufacturing and supplier source. Some material is subject to special conditions such as storage condition or life limitation etc. and this should be included on the documentation and / or material packaging.

4. A CAAN Form 1 or equivalent is not normally issued and therefore none should be expected.

AMC M.A.501 (d) – Installation

1. Consumable material is any material which is only used once, such as lubricants, cements, compounds, paints, chemicals dyes and sealants etc.

2. Raw material is any material that requires further work to make it into a component part of the aircraft such as metals, plastics, wood, fabric etc.

3. Material both raw and consumable should only be accepted when satisfied that it is to the required specification. To be satisfied, the material and or its packaging should be marked with the specification and where appropriate the batch number.

4. Documentation accompanying all material should clearly relate to the particular material and contain a conformity statement plus both the manufacturing and supplier source. Some material is

subject to special conditions such as storage condition or life limitation etc. and this should be included on the documentation and / or material packaging.

5. CAAN form 1 or equivalent is not normally issued for such material and therefore none should be expected. The material specification is normally identified in the TC holder's data except in the case where CAAN has agreed otherwise.

6. Items purchased in batches (fasteners etc.) should be supplied intact in the original equipment manufacturer (OEM) package. Packaging should state the P/N, batch number and the quantity specified in the package. The documentation accompanying the material should contain P/N, lot number and the supplied quantity, and the manufacturing sources. If the material is acquired from different lots, acceptance documentation for each lot should be supplied.

AMC M.A.504 (a) - Control of unserviceable components

A component continues to be unserviceable until a decision is taken pursuant to AMC M.A.605 (c) 6.

AMC M.A.504 (b) - Control of unserviceable components

1. M.A.801(b)(2) certifying staff or the Section A Subpart F approved maintenance organization performing maintenance should ensure proper identification of any unserviceable components.

2. The unserviceable status of the component should be clearly declared on a tag together with the component identification data and any information useful to define actions necessary to be taken. Such information should state, as applicable, in service times, maintenance status, preservation status, failures, defects or malfunctions reported or detected exposure to adverse environmental conditions, if the component has been involved in or affected by an accident/incident. Means should be provided to prevent unwanted separation of this tag from the component.

3. M.A.801(b)(2) certifying staff performing aircraft maintenance should send, with the agreement of the aircraft owner/lessee, any unserviceable component to a maintenance organisation approved under Section A Subpart F or NCAR-145 for controlled storage.

AMC M.A.504 (c) - Control of unserviceable components – unsalvageable components

1. The following types of components should typically be classified as unsalvageable:

a) components with non-repairable defects, whether visible or not to the naked eye;

b) components that do not meet design specifications, and cannot be brought into conformity with such specifications;

c) components subjected to unacceptable modification or rework that is irreversible;

d) certified life-limited parts that have reached or exceeded their certified life limits, or have missing or incomplete records;

e) components that cannot be returned to airworthy condition due to exposure to extreme forces, heat or adverse environment;

f) components for which conformity with an applicable airworthiness directive cannot be accomplished;

g) components for which continuing airworthiness records and/or traceability to the manufacturer can not be retrieved.

2. It is common practice for possessors of aircraft components to dispose of unsalvageable components by selling, discarding, or transferring such items. In some instances, these items have reappeared for sale and in the active parts inventories of the aviation community.

Misrepresentation of the status of components and the practice of making such items appear serviceable has resulted in the use of unsalvageable nonconforming components. Therefore organisations disposing of unsalvageable aircraft components should consider the possibility of such components later being misrepresented and sold as serviceable components. Caution should be exercised to ensure that unsalvageable components are disposed of in a manner that does not allow them to be returned to service.

AMC M.A.504 (d) 2 - Control of unserviceable components

1) Mutilation should be accomplished in such a manner that the components become permanently unusable for their original intended use. Mutilated components should not be able to be reworked or camouflaged to provide the appearance of being serviceable, such as by re-plating, shortening and re-threading long bolts, welding, straightening, machining, cleaning, polishing, or repainting.

2) Mutilation may be accomplished by one or a combination of the following procedures:

a) grinding,

b) burning,

c) removal of a major lug or other integral feature,

d) permanent distortion of parts,

e) cutting a hole with cutting torch or saw,

f) melting,

g) sawing into many small pieces,

h) any other method accepted by CAAN on a case by case basis.

3) The following procedures are examples of mutilation that are often less successful because they may not be consistently effective:

- a) stamping or vibro-etching,
- b) spraying with paint
- c) small distortions, incisions or hammer marks,
- d) identification by tag or markings,
- e) drilling small holes,
- f) sawing in two pieces only.

4) Since manufacturers producing approved aircraft components should maintain records of serial numbers for "retired" certified life-limited or other critical components, the organisation that mutilates a component should provide the original manufacturer with the data plate and/or serial number and final disposition of the component.

AMC M.A.504 (e) - Control of unserviceable components

A maintenance organisation may choose, in agreement with the component's owner, to release an unsalvageable component for legitimate non-flight uses, such as for training and education, research and development. In such instances, mutilation may not be appropriate. The following methods should be used to prevent the component re-entering the aviation supply system:

- a) permanently marking or stamping the component, as "NOT SERVICEABLE." (Ink stamping is not an acceptable method);
- b) removing original part number identification;
- c) removing data plate identification;
- d) maintaining a tracking or accountability system, by serial number or other individualized data, to record transferred unsalvageable aircraft component;
- e) including written procedures concerning disposal of such components in any agreement or contract transferring such components.

NOTE: Unsalvageable components should not be released to any person or organization that is known to return unsalvageable components back into the aviation supply system, due to the potential safety threat.

Sub Part F – Maintenance Organization

AMC M.A.601 Scope

An approved maintenance organisation may be approved to maintain aircraft/ aircraft components.

AMC M.A.602 Application

An application should be made on a CA Form 2 (Appendix IX) or equivalent acceptable to CAAN .

AMC M.A.603 (a) Extent of Approval

The following table identifies the ATA specification 100 chapter for the category C component rating.

Table

CLASS	RATING	ATA CHAPTERS
COMPONENTS OTHER THAN COMPLETE ENGINES OR APUs	C1 Air Cond & Press	21
	C2 Auto Flight	22
	C3 Comms and Nav	23-24
	C4 Doors — Hatches	52
	C5 Electrical Power	24-33
	C6 Equipment	25 - 38 – 45
	C7 Engine — APU	49 - 71 - 72 - 73 - 74 - 75 – 76 77 - 78 - 79 - 80 - 81 - 82 -83
	C8 Flight Controls	27 - 55 - 57.40 - 57.50- 57.60 57.70
	C9 Fuel — Airframe	28
	C10 Helicopter — Rotors	62 - 64 - 66 – 67
	C11 Helicopter — Trans	63 – 65
	C12 Hydraulic	29
	C13 Instruments	31
	C14 Landing Gear	32
	C15 Oxygen	35
	C16 Propellers	61
	C17 Pneumatic	36-37
	C18 Protection ice/rain/Fire	26-30
	C19 Windows	56
	C 20 Structure	53 - 54 - 57.10 - 57.20 - 57.30

AMC M.A.603 (b) Extent of approval

- 1) The agreement by CAAN for the fabrication of parts by the approved maintenance organisation should be formalised through the approval of a detailed procedure in the maintenance organisation manual. This AMC contains principles and conditions to be taken into account for the preparation of an acceptable procedure.
- 2) Fabrication, inspection, assembly and test should be clearly within the technical and procedural capability of the approved maintenance organisation.
- 3) The approved data necessary to fabricate the part are those approved either by CAAN, the TC holder, CAR -21 design organisation approval holder, or STC holder.
- 4) Items fabricated by an approved maintenance organisation may only be used by that organisation in the course of overhaul, maintenance, modifications, or repair of aircraft or components undergoing work within its own facility. The permission to fabricate does not constitute approval for manufacture, or to supply externally and the parts do not qualify for certification on CAAN Form 1. This also applies to the bulk transfer or surplus inventory, in that locally fabricated parts are physically segregated and excluded from any delivery certification.
- 5) Fabrication of parts, modification kits etc for onward supply and/or sale may not be conducted under a M.A. Subpart F approval.
- 6) The data specified in paragraph 3 may include repair procedures involving the fabrication of parts. Where the data on such parts is sufficient to facilitate fabrication, the parts may be fabricated by an approved maintenance organisation. Care must be taken to ensure that the data include details of part numbering, dimensions, materials, processes, and any special manufacturing techniques, special raw material specification or/and incoming inspection requirement and that the approved organisation has the necessary capability. That capability should be defined by way of maintenance organisation manual content. Where special processes or inspection procedures are defined in the approved data which are not available at the approved maintenance organisation, that organisation can not fabricate the part unless the TC/STC-holder gives an approved alternative.
- 7) Examples of fabrication under the scope of an M.A. Subpart F approval can include but are not limited to the following:
 - a) fabrication of bushes, sleeves and shims,
 - b) fabrication of secondary structural elements and skin panels,
 - c) fabrication of control cables,
 - d) fabrication of flexible and rigid pipes,
 - e) fabrication of electrical cable looms and assemblies,

f) formed or machined sheet metal panels for repairs.

Note: It is not acceptable to fabricate any item to pattern unless an engineering drawing of the item is produced which includes any necessary fabrication processes and which is accepted to CAAN.

8) Where a TC-holder or an approved production organisation is prepared to make available complete data which is not referred to in aircraft manuals or service bulletins but provides manufacturing drawings for items specified in parts lists, the fabrication of these items is not considered to be within the scope of an M.A. Subpart F approval unless agreed otherwise by CAAN in accordance with a procedure specified in the maintenance organisation manual.

9) Inspection and Identification.

Any locally fabricated part should be subject to an inspection stage before, separately, and preferably independently from, any inspection of its installation. The inspection should establish full compliance with the relevant manufacturing data, and the part should be unambiguously identified as fit for use by stating conformity to the approved data.

Adequate records should be maintained of all such fabrication processes including heat treatment and the final inspections. All parts, excepting those with inadequate space, should carry a part number which clearly relates it to the manufacturing/inspection data. Additional to the part number the approved maintenance organisation's identity should be marked on the part for traceability purposes.

AMC M.A.604 Maintenance organisation manual

1. The manual contents should detail the procedure to qualify-material, personnel, upkeep of maintenance data, quality system, audit, CAR compliance verification etc availed from other organisations. Appendix IV to this AMC provides an outline of the format of an acceptable maintenance organisation manual for a small organisation with less than 10 maintenance staff.

2. The maintenance organisation exposition as specified in NCAR -145 provides an outline of the format of an acceptable maintenance organisation manual for larger organisations with more than 10 maintenance staff, dependent upon the complexity of the organisation.

AMC M.A.605 (a) Facilities

1. Where a hangar is not owned by the M.A. Subpart F organisation, it may be necessary to establish proof of tenancy. In addition, sufficiency of hangar space to carry out planned maintenance should be demonstrated by the preparation of a projected aircraft hangar visit plan relative to the aircraft maintenance programme. The aircraft hangar visit plan should be updated on a regular basis.

2. Protection from the weather elements relates to the normal prevailing local weather elements that are expected throughout any twelve-month period. Aircraft hangar and

aircraft component workshop structures should be to a standard that prevents the ingress of rain, hail, ice, snow, wind and dust etc. Aircraft hangar and aircraft component workshop floors should be sealed to minimise dust generation.

3. Aircraft maintenance staff should be provided with an area where they may study maintenance instructions and complete continuing airworthiness records in a proper manner.

AMC M.A.605 (b) Facilities

It is acceptable to combine any or all of the office accommodation requirements into one office subject to the staff having sufficient room to carry out assigned tasks.

AMC M.A.605 (c) Facilities

1. Storage facilities for serviceable aircraft components should be clean, well- ventilated and maintained at an even dry temperature to minimise the effects of condensation. Manufacturer's storage recommendations should be followed for those aircraft components identified in such published recommendations.

2. Adequate storage racks should be provided and strong enough to hold aircraft components and provide sufficient support for large aircraft components such that the component is not damaged during storage.

3. All aircraft components, wherever practicable, should remain packaged in their protective material to minimise damage and corrosion during storage. A shelf life control system should be utilised and identity tags used to identify components.

4. Segregation means storing unserviceable components in a separate secured location from serviceable components.

5. Segregation and management of any unserviceable component should be ensured according to the pertinent procedure approved to that organisation.

6. Procedures should be defined by the organisation describing the decision process for the status of unserviceable components. This procedure should identify at least the following:

- role and responsibilities of the persons managing the decision process;
- description of the decision process to choose between maintaining, storing or mutilating a component;
- traceability of decision

7. Once unserviceable components or materials have been identified as unsalvageable in accordance with M.A.504 (c), the organisation should establish secure areas in which to segregate such items and to prevent unauthorised access. Unsalvageable components should be managed through a procedure to ensure that these components receive the appropriate final disposal according to M.A.504 (d) or (e). The person responsible for the implementation of this procedure should be identified.

AMC M.A.606 (a) Personnel requirements

With regard to the accountable manager, it is normally intended to mean the chief executive officer of the maintenance organisation approved under M.A. Subpart F, who by virtue of position has overall (including in particular financial) responsibility for running the organisation. The accountable manager may be the accountable manager for more than one organisation and is not required to be necessarily knowledgeable on technical matters.

When the accountable manager is not the chief executive officer, CAAN will need to be assured that such an accountable manager has direct access to chief executive officer and has a sufficiency of maintenance funding allocation.

AMC M.A.606 (b) Personnel requirements;

1. Dependent upon the size of the organisation, the functions may be subdivided under individual managers or combined in any number of ways.
2. The maintenance organisation should have, dependent upon the extent of approval, an aircraft maintenance manager, a workshop manager all of whom should report to the accountable manager. In small maintenance organisations any manager may also be the accountable manager, and may also be the aircraft maintenance manager or the workshop manager.
3. The aircraft maintenance manager is responsible for ensuring that all maintenance required to be carried out, plus any defect rectification carried out during aircraft maintenance, is carried out to the design and quality standards specified in this Part of CAR.

The aircraft maintenance manager is also responsible for any corrective action resulting from the M.A.616 organisational review.

4. The workshop manager is responsible for ensuring that all work on aircraft components is carried out to the standards specified in this Part of CAR and also responsible for any corrective action resulting from the M.A.616 organisational review.
5. Notwithstanding the example sub-paragraphs 2 - 4 titles, the organisation may adopt any title for the foregoing managerial positions but should identify to the competent authority the titles and persons chosen to carry out these functions.

AMC M.A.606(c) Personnel requirements

1. All nominated persons should, in the normal way, be expected to satisfy the CAAN that they possess the appropriate experience and qualifications which are listed in paragraphs 2.1 to 2.5 below.
2. All nominated persons should have:
 - 2.1 practical experience and expertise in the application of aviation safety standards and safe maintenance practices;

2.2 comprehensive knowledge of:

- a) CAR M and any associated requirements and procedures;
- b) the maintenance organisation manual;

2.3 five years aviation experience of which at least three years should be practical maintenance experience;

2.4 knowledge of the relevant type(s) of aircraft or components maintained;

2.5. knowledge of maintenance standards.

AMC M.A.606 (d) Personnel requirements

1. All staff are subjected to compliance with the organisation's procedures specified in the maintenance organisation manual relevant to their duties.
2. To have sufficient staff means that the approved maintenance organisation employs or contracts staff directly, even on a volunteer basis, for the anticipated maintenance workload.
3. Temporarily sub-contracted means the person is employed by another organization and contracted by that organisation to the approved maintenance organisation.

AMC M.A.606(e) Personnel requirements

1. Personnel involved in maintenance should be assessed for competence by 'on the job' evaluation and/or by examination relevant to their particular job role within the organisation before unsupervised work is permitted.
2. Adequate initial and recurrent training should be provided and recorded to ensure continued competence.

AMC M.A.606 (f) Personnel requirements

1. Continued airworthiness non-destructive testing means such testing specified by the type certificate holder of the aircraft, engine or propeller in the M.A.304 (b) maintenance data for in service aircraft/ aircraft components for the purpose of determining the continued fitness of the product to operate safely.
2. Appropriately qualified means to level 1, 2 or 3 as defined by CAAN Standard dependant upon the non-destructive testing function to be carried out.
3. Notwithstanding the fact that level 3 personnel may be qualified via CAAN standard to establish and authorise methods, techniques, etc., this does not permit such personnel to deviate from methods and techniques published by the type certificate holder/manufacturer in the form of continued airworthiness data, such as in non-destructive test manuals or service bulletins, unless the manual or service bulletin expressly permits such deviation.

4. Notwithstanding the general references as per CAAN Standard all examinations should be conducted by personnel or organisations under the general control of CAAN
5. Particular non-destructive test means any one or more of the following: Fluorescent dye penetrant, magnetic particle, eddy current, ultrasonic and radiographic methods including X ray and gamma ray.
6. In addition it should be noted that new methods are and will be developed, such as, but not limited to thermography and shearography, which are not specifically addressed by CAAN Standard. Until such time as an agreed standard is established such methods should be carried out in accordance with the particular equipment manufacturers' recommendations including any training and examination process to ensure competence of the personnel with the process.
7. Any approved maintenance organisation that carries out continued airworthiness nondestructive testing should establish qualification procedures for non-destructive testing.
8. Boroscopy and other techniques such as delamination coin tapping are non-destructive inspections rather than non-destructive testing. Notwithstanding such differentiation, approved maintenance organisation should establish a procedure to ensure that personnel who carry out and interpret such inspections are properly trained and assessed for their competence with the process. Non-destructive inspections, not being considered as nondestructive testing by M.A. Subpart F are not listed in Appendix IV to CAR M under class rating D1.
9. The referenced standards, methods, training and procedures should be specified in the maintenance organisation manual.
10. Any such personnel who intend to carry out and/or control a non-destructive test for which they were not qualified prior to the effective date of CAR M should qualify for such nondestructive test in accordance with CAAN Standard.

AMC M.A.607 Certifying staff

1. Adequate understanding of the relevant aircraft and/or aircraft component(s) to be maintained together with the associated organisation procedures means that the person has received training and has relevant maintenance experience on the product type and associated organisation procedures such that the person understands how the product functions, what are the more common defects with associated consequences.
2. All prospective certifying staff are required to be assessed for competence, qualification and capability related to intended certifying duties. Competence and capability can be assessed by having the person work under the supervision of another certifying person for sufficient time to arrive at a conclusion. Sufficient time could be as little as a few weeks if the person is fully exposed to relevant work. The person need not be assessed against the complete spectrum of intended duties. When the person has been recruited from another approved maintenance organisation and was a certifying person in that organisation then it is reasonable to accept a written confirmation from the previous organisation.

3. The organisation should hold copies of all documents that attest to qualification, and to recent experience.

4. Relevant maintenance experience should be understood to mean that the person has worked in an aircraft or component maintenance environment and has either exercised the privileges of the certification authorisation and/or has actually carried out maintenance on at least some of the aircraft type systems specified in the particular certification authorisation.

AMC M.A.607 (c) Certifying staff

1. The following minimum information as applicable should be kept on record in respect of each certifying person:

- a) name;
- b) date of birth;
- c) basic training;
- d) type training;
- e) recurrent training;
- f) specialised training;
- g) experience;
- h) qualifications relevant to the approval;
- i) scope of the authorisation;
- j) date of first issue of the authorisation;
- k) if appropriate - expiry date of the authorisation.

2. Persons authorised to access the system should be maintained at a minimum to ensure that records cannot be altered in an unauthorised manner or that such confidential records become accessible to unauthorised persons.

3. The CAAN should be granted access to the records upon request.

AMC M.A.608 (a) Components, equipment and tools

1. Once the applicant for M.A. Subpart F approval has determined the intended scope of approval for consideration by the CAAN, it will be necessary to show that all tools and equipment as specified in the maintenance data can be made available when needed.

2. All such tools should be clearly identified and listed in a control register including any personal tools and equipment that the organisation agrees can be used.
3. For tools required on an occasional basis, the organisation should ensure that they are controlled in terms of servicing or calibration as required.

AMC M.A.608 (b) Components, equipment and tools

1. The control of these tools and equipment requires that the organisation has a procedure to inspect/service and, where appropriate, calibrate such items on a regular basis and indicate to users that the item is within any inspection or service or calibration time-limit. A clear system of labelling all tooling, equipment and test equipment is therefore necessary giving information on when the next inspection or service or calibration is due and if the item is unserviceable for any other reason where it may not be obvious. A register should be maintained for all the organisation's precision tooling and equipment together with a record of calibrations and standards used.
2. Inspection, service or calibration on a regular basis should be in accordance with the equipment manufacturers' instructions except where the M.A. Subpart F organization can show by results that a different time period is appropriate in a particular case.

AMC M.A.609 Maintenance Data

When an organisation uses customer provided maintenance data, the scope of approval indicated in the maintenance organisation manual should be limited to the individual aircraft covered by the contracts signed with those customers unless the organisation also holds its own complete set of maintenance data for that type of aircraft.

AMC M.A.613 (a) Component certificate of release to service

1. Aircraft component which has been maintained off the aircraft requires the issue of a certificate of release to service for such maintenance and another CRS to service in regard to being installed properly on the aircraft when such action occurs.
2. In the case of components in storage prior to NCAR 145, CAR M and CAR 21 and not released on a CAAN Form 1 or equivalent in accordance with M.A.501(a) or removed serviceable from active aircraft which have been withdrawn from service, this paragraph provides additional guidance regarding the conditions under which a CAAN Form 1 may be issued .

2.1 A CAAN Form 1 may be issued for an aircraft component which has been:

- released without a CAAN Form 1 or equivalent
- Used on an aircraft and removed in a serviceable condition. Examples include leased and loaned aircraft components.
- Removed from aircraft which have been withdrawn from service, or from aircraft

which have been involved in abnormal occurrences such as accidents, incidents, heavy landings or lightning strikes.

- Components maintained by an unapproved organisation.

2.2. An appropriately rated M.A. Subpart F maintenance organisation may issue a CAAN Form 1 as detailed in this AMC sub-paragraph 2.5 to 2.9, as appropriate, in accordance with procedures detailed in the manual as approved by CAAN. The appropriately rated M.A. Subpart F maintenance organisation is responsible for ensuring that all reasonable measures have been taken to ensure that only approved and serviceable aircraft components are issued a CAAN Form 1 under this paragraph.

2.3. For the purposes of this paragraph 2 only, appropriately rated means an organization with an approval class rating for the type of component or for the product in which it may be installed.

2.4. A CAAN Form 1 issued in accordance with this paragraph 2 should be issued by signing in block 20 and stating "Inspected" in block 12. In addition, block 13 should specify:

2.4.1. when the last maintenance was carried out and by whom;

2.4.2. if the component is unused, when the component was manufactured and by whom with a cross reference to any original documentation which should be included with the Form;

2.4.3. a list of all airworthiness directives, repairs and modifications known to have been incorporated. If no airworthiness directives or repairs or modifications are known to be incorporated then this should be so stated.

2.4.4. detail of life used for service life limited parts being any combination of fatigue, overhaul or storage life;

2.4.5. for any aircraft component having its own maintenance history record, reference to the particular maintenance history record as long as the record contains the details that would otherwise be required in block 13. The maintenance history record and acceptance test report or statement, if applicable, should be attached to the CAAN Form 1.

2.5. New / unused aircraft components

2.5.1 Any unused aircraft component in storage without a CAAN Form 1 up to the effective date(s) for CAR 21 that was manufactured by an organisation acceptable to CAAN at the time may be issued a CAAN Form 1 by an appropriately rated maintenance organisation approved under M.A. Subpart F. The CA Form1 should be issued in accordance with the following subparagraphs which should be included in a procedure within the maintenance organisation manual.

Note 1: It should be understood that the release of a stored but unused aircraft component in accordance with this paragraph represents a maintenance release under M.A. Subpart F and not a production release under CAR 21. It is not intended to bypass the production release procedure agreed by CAAN for parts and subassemblies intended for fitment on the manufacturers own production line.

a) An acceptance test report or statement should be available for all used and unused aircraft components that are subjected to acceptance testing after manufacturing or maintenance as appropriate.

b) The aircraft component should be inspected for compliance with the manufacturer's instructions and limitations for storage and condition including any requirement for limited storage life, inhibitors, controlled climate and special storage containers. In addition or in the absence of specific storage instructions the aircraft component should be inspected for damage, corrosion and leakage to ensure good condition.

c) The storage life used of any storage life limited parts should be established.

2.5.2. If it is not possible to establish satisfactory compliance with all applicable conditions specified in subparagraph 2.5.1 (a) to (c) inclusive the aircraft component should be disassembled by an appropriately rated organisation and subjected to a check for incorporated airworthiness directives, repairs and modifications and inspected/tested in accordance with the manufacturers maintenance instructions to establish satisfactory condition and, if relevant, all seals, lubricants and life limited parts replaced. On satisfactory completion after reassembly a CAAN Form 1 may be issued stating what was carried out and the reference of the manufacturers maintenance instructions included.

2.6. Used aircraft components removed from a serviceable aircraft.

2.6.1. Serviceable aircraft components removed from a CAAN registered aircraft may be issued a CAAN Form 1 by an appropriately rated organisation subject to compliance with this subparagraph.

a) The organisation should ensure that the component was removed from the aircraft by an appropriately qualified person.

b) The aircraft component may only be deemed serviceable if the last flight operation with the component fitted revealed no faults on that component/related system.

c) The aircraft component should be inspected for satisfactory condition including in particular damage, corrosion or leakage and compliance with any additional manufacturer's maintenance instructions.

d) The aircraft record should be researched for any unusual events that could affect the serviceability of the aircraft component such as involvement in accidents, incidents, heavy landings or lightning strikes. Under no circumstances may a CAAN Form 1 be issued in accordance with this paragraph 2.6 if it is suspected that the aircraft component has been subjected to extremes of stress, temperatures or immersion which could effect its operation.

e) A maintenance history record should be available for all used serialized aircraft components.

f) Compliance with known modifications and repairs should be established.

g) The flight hours/cycles/landings as applicable of any service life limited parts including time since overhaul should be established.

h) Compliance with known applicable airworthiness directives should be established.

i) Subject to satisfactory compliance with this subparagraph 2.6.1 a CAAN Form 1 may be issued and should contain the information as specified in paragraph 2.4 including the aircraft from which the aircraft component was removed.

2.6.2. Serviceable aircraft components removed from a non CAAN registered aircraft may only be issued a CAAN Form 1 if the components are leased or loaned from the maintenance organisation approved under M.A. Subpart F who retains control of the airworthiness status of the components. A CAAN Form 1 may be issued and should contain the information as specified in paragraph 2.4 including the aircraft from which the aircraft component was removed.

2.7 Used aircraft components removed from an aircraft withdrawn from service. Serviceable aircraft components removed from a CAAN registered aircraft withdrawn from service may be issued a CAAN Form 1 by a maintenance organization approved under M.A. Subpart F subject to compliance with this sub paragraph.

a) Aircraft withdrawn from service are sometimes dismantled for spares. This is considered to be a maintenance activity and should be accomplished under the control of an organisation approved under M.A. Subpart F, employing procedures approved by CAAN.

b) To be eligible for installation components removed from such aircraft may be issued with a CAAN Form 1 by an appropriately rated organisation following a satisfactory assessment.

c) As a minimum the assessment will need to satisfy the standards set out in paragraphs 2.5 and 2.6 as appropriate. This should where known, include the possible need for the alignment of scheduled maintenance that may be necessary to comply with the maintenance programme applicable to the aircraft on which the component is to be installed.

d) Irrespective of whether the aircraft holds a certificate of airworthiness or not, the organisation responsible for certifying any removed component should satisfy itself that the manner in which the components were removed and stored are compatible with the standards required by M.A. Subpart F.

e) A structured plan should be formulated to control the aircraft disassembly process. The disassembly is to be carried out by an appropriately rated organisation under the supervision of certifying staff, who will ensure that the aircraft components are removed and documented in a structured manner in accordance with the appropriate maintenance data and disassembly plan.

f) All recorded aircraft defects should be reviewed and the possible effects these may have on both normal and standby functions of removed components are to be considered.

g) Dedicated control documentation is to be used as detailed by the disassembly plan, to facilitate the recording of all maintenance actions and component removals performed during the disassembly process.

Components found to be unserviceable are to be identified as such and quarantined pending a decision on the actions to be taken. Records of the maintenance accomplished to establish serviceability are to form part of the component maintenance history.

h) Suitable M.A. Subpart F facilities for the removal and storage of removed components are to be used which include suitable environmental conditions, lighting, access equipment, aircraft tooling and storage facilities for the work to be undertaken. While it may be acceptable for components to be removed, given local environmental conditions, without the benefit of an enclosed facility subsequent disassembly (if required) and storage of the components should be in accordance with manufacturer's recommendations.

2.8. Used aircraft components maintained by organisations not approved in accordance with M.A. Subpart F. For used components maintained by a maintenance organisation unapproved under M.A. Subpart F, due care should be exercised before acceptance of such components. In such cases an appropriately rated maintenance organisation approved under NCAR 145 should establish satisfactory conditions by:

- a) dismantling the component for sufficient inspection in accordance with the appropriate maintenance data,
- b) replacing of all service life limit components when no satisfactory evidence of life used is available and/or the components are in an unsatisfactory condition,
- c) reassembling and testing as necessary the component,
- d) completing all certification requirements as specified in M.A.613

2.9. Used aircraft components removed from an aircraft involved in an accident or incident. Such components should only be issued with a CAAN Form 1 when processed in accordance with paragraph 2.7 and a specific work order including all additional necessary tests and inspections made necessary by the accident or incident. Such a work order may require input from the TC holder or original manufacturer as appropriate. This work order should be referenced in block 13.

3. A certificate should not be issued for any component when it is known that the component is unserviceable except in the case of a component undergoing a series of maintenance processes at several approved maintenance organisations and the component needs a certificate for the previous maintenance process carried out for the next approved maintenance organisation to accept the component for subsequent maintenance processes. A clear statement of limitation should be endorsed in block 13.

4. The certificate is to be used for export/import purposes, as well as for domestic purposes, and serves as an official certificate for components from the manufacturer/maintenance organisation to users. The certificate is not a delivery or shipping note. It should only be issued by organisations approved by CAAN as applicable within the scope of the approval.

AMC M.A.614 (a) Maintenance records

1. Properly executed and retained records provide owners, operators and maintenance

personnel with information essential in controlling unscheduled and scheduled maintenance, and trouble shooting to eliminate the need for re-inspection and rework to establish airworthiness. The prime objective is to have secure and easily retrievable records with comprehensive and legible contents. The aircraft record should contain basic details of all serialized aircraft components and all other significant aircraft components installed, to ensure traceability to such installed aircraft component documentation and associated M.A.304 maintenance data.

2. The maintenance record can be either a paper or computer system or any combination of both. The records should remain legible throughout the required retention period.

3. Paper systems should use robust material which can withstand normal handling and filing.

4. Computer systems may be used to control maintenance and/or record details of maintenance work carried out. Computer systems used for maintenance should have at least one backup system which should be updated at least within 24 hours of any maintenance. Each terminal is required to contain programme safeguards against the ability of unauthorised personnel to alter the database.

AMC M.A.614 (c) Maintenance records

Associated maintenance data is specific information such as repair and modification data. This does not necessarily require the retention of all aircraft maintenance manual, component maintenance manual, parts catalogues etc issued by the TC holder or STC holder. Maintenance records should refer to the revision status of the data used.

AMC M.A.616 Organisational review

1. The primary objectives of the organisational review are to enable the approved maintenance organisation to ensure that it can deliver a safe product and that approved maintenance organisation remains in compliance with the requirements.

2. The approved maintenance organisation should identify:

2.1. The person responsible for the organisational review, and;

2.2. The frequency of the reviews, and;

2.3. The scope and content of the reviews, and;

2.4. The persons accomplishing the reviews, and;

2.5. The procedure for planning, performing and processing review findings.

2.6. The procedure for ensuring corrective actions are carried out in the appropriate time frame.

3. The organisation quality system as specified in NCAR 145 provides an acceptable basic structure for the organisational review system for organisations with more than 10 maintenance staff, dependent upon the complexity of the organisation.

4. Appendix VIII should be used to manage the organisational reviews.

AMC M.A.617 Changes to the approved maintenance organization

CAAN should be given adequate notification of any proposed changes in order to enable the maintenance organisation to remain approved if agreed by CAAN during negotiations about any of the specified changes. Without this paragraph the approval would automatically be suspended in all cases.

Subpart G - CONTINUING AIRWORTHINESS MANAGEMENT

ORGANISATION

AMC M.A.704 Continuing Airworthiness Management Exposition

1. The purpose of the continuing airworthiness management exposition is to set forth the procedures, means and methods of the M.A. Subpart G organisation. Compliance with its contents will assure compliance with CAR M requirements.

2. A continuing airworthiness management exposition should comprise:

Part 0 General organisation

Part 1 Continuing airworthiness procedures

Part 2 Quality system or organisational review (as applicable)

Part 3 Contracted maintenance (for operators) – management of maintenance (liaison with maintenance organisations in the case of non commercial air transport)

Part 4 Airworthiness review procedures (if applicable)

3. Where a M.A. Subpart G organisation is also approved to another NCAR 145/ Subpart F, the exposition or manual required by the other NCAR 145/ Subpart F may form the basis of the continuing airworthiness management exposition in a combined document. Follows the example for a combined NCAR -145 and M.A. Subpart G organisation:

NCAR -145 Exposition (see equivalent paragraphs AMC 145.A.70(a))

Part 1 Management

Part 2 Maintenance Procedures

Part L-2 Additional line maintenance procedures

Part 3 Quality system and/or organisational review (as applicable). It should also cover the functions specified by M.A.712 quality system.

Part 4 Contracts with owners/operators. It should also cover contracted maintenance (for operators) – Management of maintenance (liaison with maintenance organisations in the case of non commercial air transport)

Part 5 Appendices (sample of documents)

Part 7 Other Regulatory supplement (if applicable)

Part 8 Reserved

Additional parts should be introduced covering the following:

Part 0 General organisation

Part 6 Continuing airworthiness procedures

Part 9 Airworthiness review procedures (if applicable)

4. Personnel should be familiar with those parts of the exposition that are relevant to their tasks.
5. The M.A. Subpart G organisation should specify in the exposition who is responsible for the amendment of the document.
6. Unless otherwise agreed by CAAN, the person responsible for the management of the quality system or for the organisational review should be responsible for monitoring and amending the exposition, including associated procedures manuals, and the submission of proposed amendments to CAAN. The CAAN may agree a procedure, which will be stated in the amendment control section of the exposition, defining the class of amendments which can be incorporated without the prior consent of CAAN.
7. The operator may use electronic data processing (EDP) for publication of the continuing airworthiness management exposition. The continuing airworthiness management exposition should be made available to CAAN in a form acceptable to CAAN. Attention should be paid to the compatibility of EDP publication systems with the necessary dissemination of the continuing airworthiness management exposition, both internally and externally.
8. Part 0 “General organisation” of the continuing airworthiness management exposition should include a corporate commitment by the M.A Subpart G organisation, signed by the accountable manager confirming that the continuing airworthiness management exposition and any associated manuals define the organisation compliance with CAR M and will be complied with at all times.
9. The accountable manager's exposition statement should embrace the intent of the following paragraph and in fact this statement may be used without amendment. Any modification to the statement should not alter the intent;

This exposition defines the organisation and procedures upon which CAAN M.A. Subpart G continuing airworthiness management approval is based. These procedures are approved by the undersigned and should be complied with, as applicable, in order to ensure that all continuing airworthiness tasks of..... (Quote operators's name)..... fleet of aircraft and/or of all aircraft under contract in accordance with M.A.201 (e) with..... (Quote organisation's name)..... are carried out on time to an approved standard.

It is accepted that these procedures do not override the necessity of complying with any new or amended regulation published from time to time where these new or amended regulations are in conflict with these procedures.

It is understood that CAAN will approve this organisation whilst CAAN is satisfied that the procedures are being followed and the work standard maintained. It is understood that CAAN reserves the right to suspend, vary or revoke the M.A. Subpart G continuing airworthiness management approval of the organisation or the air operators certificate, as applicable, if CAAN has evidence that the procedures are not followed and the standards not upheld.

Signed

Dated

Accountable Manager and ...(quote position).....

For and on behalf of(quote organisation's name)..... "

10. Whenever the accountable manager is changed it is important to ensure that the new accountable manager signs the paragraph 9 statement at the earliest opportunity as part of the acceptance by the CAAN.

Failure to carry out this action invalidates the M.A. subpart G continuing airworthiness management approval or their air operator certificate.

AMC M.A.705 Facilities

Office accommodation should be such that the incumbents, whether they be continuing airworthiness management, planning, technical records or quality staff, can carry out their designated tasks in a manner that contributes to good standards. In the smaller M.A. Subpart G organisations, CAAN may agree to these tasks being conducted from one office subject to being satisfied that there is sufficient space and that each task can be carried out without undue disturbance. Office accommodation should also include an adequate technical library and room for document consultation

AMC M.A.706 Personnel requirements

1. The person or group of persons should represent the continuing airworthiness management structure of the organisation and be responsible for all continuing airworthiness functions. Dependent on the size of the operation and the organisational setup, the continuing airworthiness functions may be divided under individual managers or combined in nearly any number of ways. However, if a quality system is in place it should be independent from the other functions.

2. The actual number of persons to be employed and their necessary qualifications is dependent upon the tasks to be performed and thus dependent on the size and complexity of the organisation (general aviation aircraft, corporate aircraft, number of aircraft and the aircraft types, complexity of the aircraft and their age and for commercial air transport, route network, line or charter, ETOPS) and the amount and complexity of maintenance contracting. Consequently, the number of persons needed, and their qualifications may differ greatly from one organisation to another and a simple formula covering the whole range of possibilities is not feasible.

3. To enable CAAN to accept the number of persons and their qualifications, an organisation should make an analysis of the tasks to be performed, the way in which it intends to divide and/or combine these tasks, indicate how it intends to assign responsibilities and establish the number of man/hours and the qualifications needed to perform the tasks. With significant changes in the

aspects relevant to the number and qualifications of persons needed, this analysis should be updated.

4. Nominated person or group of persons should have:

4.1. practical experience and expertise in the application of aviation safety standards and safe operating practices;

4.2. a comprehensive knowledge of:

- (a). relevant parts of operational requirements and procedures;
- (b). the AOC holder's Operations Specifications when applicable;
- (c). the need for, and content of, the relevant parts of the AOC holder's Operations Manual when applicable;

4.3. knowledge of quality systems;

4.4. five years relevant work experience of which at least two years should be from the aeronautical industry in an appropriate position;

4.5. a relevant engineering degree or an aircraft maintenance technician qualification with additional education acceptable to CAAN . 'relevant engineering degree' means an engineering degree from aeronautical, mechanical, electrical, electronic, avionic or other studies relevant to the maintenance and continuing airworthiness of aircraft/aircraft components;

4.6. thorough knowledge with the organisation's continuing airworthiness management exposition;

4.7. knowledge of a relevant sample of the type(s) of aircraft gained through a formalised training course;

4.8. knowledge of maintenance methods.

AMC M.A.706 (e) Personnel requirements

1. CAAN shall only accept that the nominated post holder be employed by the organization approved under NCAR 145 when it is manifest that he/she is the only available competent person in a position to exercise this function, within a practical working distance from the operator's offices.

2. This paragraph only applies to contracted maintenance and therefore does not affect situations where the organisation approved under NCAR 145 and the operators are the same organisation.

AMC M.A.707 (a) Airworthiness review staff

1. Airworthiness review staff are only required if the M.A. Subpart G organization wants to be granted M.A.711 (b) airworthiness review privileges.

2. A person qualified to the AMC M.A.706 subparagraph 4.5 should be considered as holding the equivalent to an aeronautical degree.
3. An appropriate Rule 61 licence. It is not necessary to satisfy the experience requirements of Rule 61 at the time of the review.
4. To hold a position with appropriate responsibilities means the airworthiness review staff should have a position in the organisation independent from the airworthiness management process or with overall authority on the airworthiness management process of complete aircraft.

AMC M.A.708 (c) Continuing airworthiness management

1. Where an operator is not approved under NCAR -145 or an operator's maintenance organisation is an independent organisation, a contract should be agreed between the operator and a maintenance organisation approved under NCAR -145, which specifies, in detail, the work to be performed by the maintenance organisation. Appendix XI to this AMC gives further details on the subject.
2. Both the specification of work and the assignment of responsibilities should be clear, unambiguous and sufficiently detailed to ensure that no misunderstanding should arise between the parties concerned (operator, maintenance organisation and CAAN) that could result in a situation where work that has a bearing on the airworthiness or serviceability of aircraft is not or will not be properly performed.
3. Special attention should be paid to procedures and responsibilities to ensure that all maintenance work is performed, service bulletins are analysed and decisions taken on accomplishment, airworthiness directives are completed on time and that all work, including non-mandatory modifications is carried out to approved data and to the latest standards.
4. For line maintenance, the actual layout of the contract the IATA Standard Ground Handling Agreement may be used as a basis, but this does not preclude the CAAN from ensuring that the content of the contract is acceptable to them, and especially that the contract allows the operator to properly exercise its maintenance responsibility. Those parts of a contract that have no bearing on the technical or operational aspects of airworthiness are outside the scope of this paragraph.
5. It is possible to contract another operator that is not directly approved under NCAR -145. In this case the operator's continuing airworthiness management exposition should include appropriate procedures to ensure that all this contracted maintenance is ultimately performed on time by organisations approved under NCAR-145 in accordance with the contracting operator's data. In particular the quality system procedures should place great emphasis on monitoring compliance with the above. The list of NCAR -145 approved contractors, or a reference to this list, should be included in the operator's continuing airworthiness management exposition.
6. Such a maintenance arrangement does not absolve the operator from its overall continuing airworthiness responsibility. Specifically, in order to accept the maintenance arrangement, the CAAN should be satisfied that such an arrangement allows the operator to ensure full compliance with responsibilities pursuant to M.A.201.

7. The purpose of M.A.708(c) is to ensure that all maintenance is carried out by properly approved NCAR 145 organisations. This does not preclude a primary maintenance arrangement with an operator that is not such an organisation, when it proves that such an arrangement is in the interest of the operator by simplifying the management of its maintenance, and the operator keeps an appropriate control of it. Such an arrangement should not preclude the operator from ensuring that all maintenance is performed by a NCAR 145 approved organisation and complying with the M.A.201 continuing airworthiness responsibility requirements. Typical examples of such arrangements follow:

- Component maintenance:

The operator may find it more appropriate to have a primary contractor that would dispatch the components to appropriately approved organisations, rather than himself sending different types of components to various maintenance organisations approved under NCAR 145. The benefit for the operator is that the management of maintenance is simplified by having a single contact point for component maintenance. The operator remains responsible for ensuring that all maintenance is performed by maintenance organisations approved under NCAR 145 and in accordance with the approved standard.

- Aeroplane, engine and component maintenance:

The operator may wish to have a maintenance contract with another operator of the same type of aircraft not approved under NCAR 145. A typical case is that of a dry-leased aeroplane between operators, where the parties, for consistency or continuity reasons (especially for short term lease agreements) find it appropriate to keep the aeroplane under the current maintenance arrangement. Where this arrangement involves various NCAR 145 approved contractors, it might be more manageable for the lessee operator to have a single contract with the lessor operator. Such an arrangement should not be understood as a transfer of responsibility to the lessor operator: the lessee operator, being the approved operator of the aircraft, remains responsible for the continuing airworthiness of the aeroplane in performing the M.A.708 functions, and employing the M.A.706 continuing airworthiness management group of persons and staff. In essence, this does not alter the intent of M.A.201 (h) in that it also requires that the operator has to establish a written maintenance contract acceptable to the competent authority of operator and, whatever type of acceptable arrangement is made, the operator is required to exercise the same level of control on contracted maintenance, particularly through the M.A.706 (c) continuing airworthiness management group of persons and quality system as referred to in M.A.712.

AMC M.A.708 (c) (1) Continuing airworthiness management – unscheduled maintenance

The intent of this paragraph is that maintenance contracts are not necessary when the operator's continuing airworthiness system, as approved by CAAN, specifies that the relevant maintenance activity may be ordered through one time work orders. This includes for obvious reasons unscheduled line maintenance and may also include aeroplane component maintenance up to engines, so long as the competent authority of operator considers that the maintenance is manageable through work orders, both in term of volume and complexity. It should be noted that this paragraph implies that even where base maintenance is ordered on a case-by-case basis, there should be a written maintenance contract.

AMC M.A.710 (a) Airworthiness review

1. A full documented review is a check of at least the following categories of documents:
- registration papers
 - M.A.305 aircraft continuing airworthiness record system
 - M.A.306 operator's technical log system
 - list of deferred defects, minimum equipment list and configuration deviation list if applicable
 - aircraft flight manual including aircraft configuration
 - aircraft Maintenance programme
 - maintenance Data
 - relevant work packages
 - AD status
 - modification and SB status
 - modification and repair approval sheets
 - list of service life limited component
 - relevant CAAN Form 1 or equivalent
 - mass and balance report and equipment list
 - aircraft, engine and propeller TC Data Sheets

As a minimum, sample checks within each document category should be carried out.

2. The M.A. Subpart G organisation should develop procedures for the airworthiness review staff to produce a compliance report that confirms the above have been reviewed and found in compliance with CAR-M.

AMC M.A.710 (b) and (c) Airworthiness review

1. The physical survey could require actions categorised as maintenance (e.g. operational tests, tests of emergency equipment, visual inspections requiring panel opening etc.). In this case, after the airworthiness review a release to service should be issued in accordance with CAR M.
2. The physical survey may include verifications to be carried out during flight.
3. The M.A. Subpart G organisation should develop procedures for the airworthiness review staff to produce a compliance report that confirms the physical survey has been carried out and found satisfactory.
4. To ensure compliance the physical survey may include relevant sample checks of items.

AMC M.A.710 (e) Airworthiness review

A copy of both physical survey and document review compliance reports stated above should be sent to CAAN together with any recommendation issued.

AMC M.A.711 (b) Privileges of the organisation

It is not necessary for an organisation to be approved to carry out airworthiness reviews. This can be contracted to another appropriately approved organisation. In this case, the airworthiness review should be carried out every year and the ARC issued by CAAN following a recommendation.

AMC M.A.712 (a) Quality system

1. Procedures should be held current such that they reflect best practice within the organisation. It is the responsibility of all employees to report any difficulties with the procedures via their organisation's internal occurrence reporting mechanisms.
2. All procedures, and changes to the procedures, should be verified and validated before use where practicable.
3. The feedback part of the system should address who is required to rectify any noncompliance in each particular case and the procedure to be followed if rectification is not completed within appropriate timescales. The procedure should lead to the accountable manager specified in M.A.706.
4. The independent quality audit reports referenced in AMC M.A.712 (b) should be sent to the relevant department for rectification action giving target rectification dates. Rectification dates should be discussed with such department before the quality department or nominated quality auditor confirms such dates in the report. The relevant department is required to rectify findings and inform the quality manager or the quality auditor of such rectification.
5. The accountable manager should hold regular meetings with staff to check progress on rectification except that in the large organisations such meetings may be delegated on a day to day basis to the quality manager subject to the accountable manager meeting at least twice per year with the senior staff involved to review the overall performance and receiving at least a half yearly summary report on findings of non-compliance.

AMC M.A.712 (b) Quality System

1. The primary objectives of the quality system are to enable the M.A. Subpart G organisation to ensure airworthy aircraft and to remain in compliance with the CAR M requirements.
2. An essential element of the quality system is the independent audit.
3. The independent audit is an objective process of routine sample checks of all aspects of the M.A. Subpart G organisation's ability to carry out continuing airworthiness management to the required standards. It includes some product sampling as this is the end result of the process.
4. The independent audit represents an objective overview of the complete continuing airworthiness management related activities. It is intended to complement the M.A.902 requirement for an airworthiness review to be satisfied that all aircraft managed by the organisation remain airworthy.
5. The independent audit should ensure that all aspects of M.A. Subpart G compliance are checked annually, including all the sub-contracted activities, and may be carried out as a complete single exercise or subdivided over the year period in accordance with a scheduled plan. The independent audit does not require each procedure to be checked against each product line when it can be shown that the particular procedure is common to more than one product line and

the procedure has been checked every year without resultant findings. Where findings have been identified, the particular procedure should be rechecked against other product lines until the findings have been rectified after which the independent audit procedure may revert back to year for the particular procedure.

Provided that there are no safety related findings, the audit time periods specified in this AMC may be increased by up to 100% subject to agreement by CAAN .

6. Where the organisation has more than one location approved the quality system should describe how these are integrated into the system and include a plan to audit each location every year.

7. A report should be raised each time an audit is carried out describing what was checked and the resulting findings against applicable requirements, procedures and products.

8. The independence of the audit should be established by always ensuring that audits are carried out by personnel not responsible for the function, procedure or products being checked.

9. An organisation should establish a quality plan acceptable to CAAN to show when and how often the activities as required by M.A. Subpart G will be audited.

AMC M.A.712 (f) Quality system

A small organisation is an organisation managing less than 10 aircraft. This number should be decreased by 50% in the case of large aircraft. The combination of aircraft and aircraft types, the utilisation of the aircraft and the number of approved locations of the organisations should also be considered before replacing the quality system by an organisational review.

AMC M.A.713 Changes to the approved continuing airworthiness organization

1. This paragraph covers scheduled changes to the continuing airworthiness organisation's approval. Whilst the requirements relating to air operator certificates, including their issue, variation and continued validity, are prescribed in the appropriate regulation, operators should be aware this paragraph is included in CAR M and may affect continued acceptance of the continuing airworthiness management.
2. The primary purpose of this paragraph is to enable the continuing airworthiness organisation to remain approved if agreed by the CAAN during negotiations about any of the specified changes. Without this paragraph the approval would automatically be suspended in all cases.

AMC M.A.714 Record-keeping

1. The M.A. Subpart G organisation should ensure that it always receives a complete CRS from the approved maintenance organisation such that the required records can be retained. The system to keep the continuing airworthiness records should be described in the organisation continuing airworthiness management exposition.
2. When an organisation arranges for the relevant maintenance organisation to retain copies of the continuing airworthiness records on its behalf, it will nevertheless continue to be responsible for the records under M.A.714 relating to the preservation of records. If it ceases to be the organisation of the aircraft, it also remains responsible for transferring the records to any other person or organisation managing continuing airworthiness of the aircraft.
3. Keeping continuing airworthiness records in a form acceptable to CAAN means in paper form or on a computer database or a combination of both methods. Records stored in microfilm or optical disc form are also acceptable. The record should remain legible throughout the required retention period.
4. Paper systems should use robust material which can withstand normal handling and filing.
5. Computer systems should have at least one backup system which should be updated within 24 hours of any new entry. Each terminal is required to contain programme safeguards against the ability of unauthorised personnel to alter the database.
6. Microfilming or optical storage of continuing airworthiness records may be carried out at any time. The records should be as legible as the original record and remain so for the required retention period.

Subpart H-CERTIFICATE OF RELEASE TO SERVICE

AMC M.A. 801 (b) Aircraft certificate of release to service

A certificate of release to service is necessary before flight, at the completion of any defect rectification, whilst the aircraft operates a flight between scheduled maintenance checks.

AMC M.A.801 (d) Aircraft certificate of release to service

1. The aircraft certificate of release to service should contain the following statement:

(a) 'Certifies that the work specified except as otherwise specified was carried out in accordance with CAR-M and in respect to that work the aircraft is considered ready for release to service'.

(b) For a Pilot-owner a certificate of release to service should contain the following statement:

'Certifies that the limited pilot-owner maintenance specified except as otherwise specified was carried out in accordance with CAR-M and in respect to that work the aircraft is considered ready for release'.

2. The certificate of release to service should relate to the task specified in the manufacturer's or operator's instruction or the aircraft maintenance programme which itself may cross-refer to a manufacturer's/ operator's instruction in a maintenance manual, service bulletin etc.

3. The date such maintenance was carried out should include when the maintenance took place relative to any life or overhaul limitation in terms of date/flying hours/cycles/landings etc., as appropriate.

4. When extensive maintenance has been carried out, it is acceptable for the certificate of release to service to summarise the maintenance so long as there is a unique crossreference to the work-pack containing full details of maintenance carried out. Dimensional information should be retained in the work-pack record.

5. The person issuing the certificate of release to service should use his normal signature except in the case where a computer release to service system is used. In this latter case, the CAAN will need to be satisfied that only the particular person can electronically issue the release to service. One such method of compliance is the use of a magnetic or optical personal card in conjunction with a personal identity number (PIN) known only to the individual, which is keyed into the computer. A certification stamp is optional.

6. the completion of all maintenance, owners, certifying staff, operators and maintenance organisations should ensure they have a clear, concise, legible record of the work performed.

7. In the case of an M.A.801 (b) 2 release to service, certifying staff should retain all records necessary to prove that all requirements have been met for the issuance of a certificate of release to service.

AMC M.A.801 (e) Aircraft certificate of release to service

1. Being unable to establish full compliance with sub-paragraph M.A.801 (b) means that the maintenance required by the aircraft owner or M.A. Subpart G organisation could not be completed due either to running out of available aircraft maintenance downtime for the scheduled check or by virtue of the condition of the aircraft requiring additional maintenance downtime.
2. The aircraft owner or M.A. Subpart G organisation is responsible for ensuring that all required maintenance has been carried out before flight. Therefore an aircraft owner or M.A. Subpart G organisation should be informed and agree to the deferment of full compliance with M.A. 801(b). The certificate of release to service may then be issued subject to details of the deferment, including the aircraft owner or M.A. Subpart G organisation authorisation, being endorsed on the certificate.
3. If a certificate of release to service is issued with incomplete maintenance a record should be kept stating what action the mechanic, supervisor and certifying staff should take to bring the matter to the attention of the relevant aircraft owner or M.A. Subpart G organisation so that the issue may be discussed and resolved with the aircraft owner or M.A. Subpart G organisation.

AMC M.A.801 (f) Aircraft certificate of release to service

‘Hazard seriously the flight safety’ means any instance where safe operation could not be assured or which could lead to an unsafe condition. It typically includes, but is not limited to, significant cracking, deformation, corrosion or failure of primary structure, any evidence of burning, electrical arcing, significant hydraulic fluid or fuel leakage and any emergency system or total system failure. An airworthiness directive overdue for compliance is also considered a hazard to flight safety.

AMC M.A.802 Component certificate of release to service

When an approved organisation maintains an aircraft component for use by the organisation a CAAN Form 1 may not be necessary depending upon the organisation’s internal release procedures, however all the information normally required for the CAAN Form 1 should be adequately detailed in the certificate of release to service.

AMC M.A.803 Pilot-owner authorization

1. The pilot-owner should hold a valid pilot license issued or validated by a CAAN for the aircraft type being maintained.
2. Privately operated means the aircraft is not operated pursuant to M.A.201 (h) and (i).
3. A pilot owner should only issue a certificate of release to service for maintenance performed by the pilot owner and after demonstrating the competence to carry out such maintenance tasks.

Subpart I-AIRWORTHINESS REVIEW CERTIFICATE

AMC M.A.901 (a) Aircraft airworthiness review

CAAN Form 15a (Appendix-III) is issued by CAAN while CAAN Form 15b (Appendix-III) is issued by a M.A. Subpart G organisation.

AMC M.A.901 (b) Aircraft airworthiness review

1. If the continuing airworthiness of the aircraft is not managed according to a CAR M appendix I arrangement between the owner and the M.A. Subpart G organisation, the aircraft should be considered to be outside a controlled environment.

2. The fact that limited pilot-owner maintenance as defined in M.A.803 (b) is not carried out and released by an approved maintenance organisation does not change the status of an aircraft in a controlled environment providing the M.A. Subpart G organisation under contract has been informed of any such maintenance carried out.

AMC M.A.901 (c) 2 Aircraft airworthiness review

When the aircraft has remained within a controlled environment, the extension of the validity of the airworthiness review certificate does not require an airworthiness review but only a verification of the continuous compliance with M.A.902 (b).

AMC M.A.901 (d) Aircraft airworthiness review

The recommendation sent to CAAN should contain at least the items described below.

(a) General information

- M.A. Subpart G organisation information
- owner/lessee information
- date and place the document review and the aircraft survey were carried out
- period and place the aircraft can be seen if required by CAAN

(b) Aircraft information

- registration
- type
- manufacturer
- serial number
- flight manual reference
- weight and centre of gravity data
- maintenance programme reference

(c) Documents accompanying the recommendation

- copy of registration papers
- copy of the owners request for a new airworthiness review certificate

(d) Aircraft status

- aircraft total time and cycles

- list of persons or organisations having carried out continuing airworthiness activities including maintenance tasks on the aircraft and its components since the last airworthiness review certificate

(e) Aircraft survey

- a precise list of the areas of the aircraft that were surveyed and their status

(f) Findings

- a list of all the findings made during the airworthiness review with the corrective action carried out

(a) Statement

A statement signed by the airworthiness review staff recommending the issue of an airworthiness review certificate. The statement should confirm that the aircraft in its current configuration complies with the following:

- airworthiness directives up to the latest published issue, and;
- type certificate datasheet, and;
- maintenance programme, and;
- component service life limitations, and;
- the valid weight and centre of gravity schedule reflecting the current configuration of the aircraft, and;
- for all modifications and repairs, and;
- the current flight manual including supplements, and;
- operational requirements.

The above items should clearly state the exact reference of the data used in establishing compliance; for instance the number and issue of the type certificate data sheet used should be stated. The statement should also confirm that all of the above is properly entered and certified in the aircraft continuing airworthiness record system and/or in the operator's technical log.

AMC M.A.901 (e) Aircraft airworthiness review

Suitable accommodation should include:

a) an office with normal office equipment such as desks, telephones, photocopying machines etc. whereby the continuing airworthiness records can be reviewed.

b) a hangar when needed for the physical survey. The support of personnel appropriately qualified in accordance with Rule 61 is necessary when CAAN's airworthiness review staff is not appropriately qualified.

AMC M.A.903 (a) - 1 Transfer of aircraft registration within Nepal.

The applicant should notify to CAAN so as to allow the proper transfer of information during the aircraft transfer process.

AMC M.A.903 (b) Transfer of aircraft registration within Nepal:

In case of transfer of aircraft registration within Nepal , the aircraft owner/ operator should verify that CAAN has entered the new aircraft registration, if any, on the existing airworthiness review certificate and validated the change.

AMC M.A.904 (a)-1 Airworthiness reviews of aircraft imported into Nepal

In order to allow for possible participation, the applicant should inform CAAN at least 10 working days in advance of the time and location of the airworthiness review.

AMC M.A.904 (a)-2 Airworthiness reviews of aircraft imported into Nepal

1. When performing an airworthiness review of aircraft imported into the country the aircraft and the relevant records should be reviewed to determine the work to be undertaken to establish the airworthiness of the aircraft.

2. In determining the work to be undertaken during the airworthiness review on the aircraft, the following should be taken into consideration:

a) the information from exporting country authorities such as export certificates, primary authority information; and,

b) the information on aircraft maintenance history such as continuing airworthiness records, aircraft, engine, propeller, rotor and life limited part log books or cards as appropriate, tech log / flight log / cabin log, list of deferred defects, total flight times and cycles, times and cycles since last maintenance, accident history, former maintenance schedule, former AD compliance status; and,

c) the information on aircraft such as aircraft, engine and propeller type certificate datasheets, noise and emission certificate data sheets, flight manual and supplements; and,

d) the aircraft continuing airworthiness status such as the aircraft and component AD status, the SB status, the maintenance status, the status of all service life limited components, weight and centre of gravity schedule including equipment list; and,

e) the modification and repair status of the aircraft detailing elements such as owner/operator designed modifications and repairs, STCs, and parts needing approval; and,

f) the aircraft cabin configuration such as emergency equipment fitted, cockpit configuration, placards, instrument limitations, cabin layout; and,

g) the maintenance needed for import, such as embodiment of modifications needed to comply with the CAAN type certificate, bridging check to comply with the new maintenance programme; and,

h) avionics such as, but not limited to, radio and navigation equipment, instrument flight rules (IFR) equipment, digital flight data recorder (DFDR) /cockpit voice recorder (CVR) test, ELT 406 MHz code and identification; and,

i) the compass compensation; and,

j) special operating rules such as extended twin-engine operations (ETOPS)/ long range operations (LROPS), reduced vertical separation minima (RVSM), MNPS, all weather operations (AWOPS), RNAV; and,

k) the aircraft survey including verification of conformity with the flight manual and the datasheet, presence of fire proof identification plates, conformity of markings including registration, presence and serviceability of emergency equipment, internal and external lighting systems; and,

l) check flight including check of control system / cockpit ground check / engine run up

3. If there is no M.A. Subpart G organisation approved for specific aircraft type available, CAAN may carry out the airworthiness review in accordance with this paragraph and the provisions M.A.902 (e) and M.B.902. In this case, the airworthiness review should be requested to CAAN with a 30-day notice.

AMC M.A.904 (b) Airworthiness review of aircraft imported into Nepal

The recommendation sent to CAAN should contain at least the items described below.

(a) All the information set forth by AMC M.A 901(d)

(b) Aircraft information

- aircraft assigned registration
- state of manufacturer
- previous registration
- export certificate number
- TC and TC data sheet numbers
- noise and emissions TC and TC data sheet numbers
- comparison of prior maintenance programme with the proposed new maintenance programme.

(c) Documents accompanying the recommendation

- copy of the application, and;
- original export certificate, and;
- copy of the approvals of the flight manual and its supplements, and;
- list of ADs incorporated up to the latest published issue, and;
- proposed new maintenance programme, and;
- status of all service life limited components, and;
- the valid weight and centre of gravity schedule reflecting the current configuration of the aircraft, and;
- approval reference for all modifications and repairs.

(d) Maintenance

- a copy of the work packages requested by the subpart G organisation including details of any bridging check to ensure all the necessary maintenance has been carried out.

(e) Aircraft check flight

- a copy of the check flight report

Appendix I to AMC M.A.302 and AMC M.B.301 (b)

Content of the maintenance programme

1 General requirements

1.1 The maintenance programme should contain the following basic information.

1.1.1 The type/model and registration number of the aircraft, engines and, where applicable, auxiliary power units and propellers

1.1.2 The name and address of the owner, operator or M.A Subpart G approved organisation managing the aircraft airworthiness.

1.1.3 The reference, the date of issue and issue number of the approved maintenance programme.

1.1.4 A statement signed by the owner, operator or M.A Subpart G approved organisation managing the aircraft airworthiness to the effect that the specified aircraft will be maintained to the programme and that the programme will be reviewed and updated as required.

1.1.5 Contents/list of effective pages and their revision status of the document.

1.1.6 Check periods, which reflect the anticipated utilisation of the aircraft. Such utilization should be stated and include a tolerance of not more than 25%. Where utilisation cannot be anticipated, calendar time limits should also be included.

1.1.7 Procedures for the escalation of established check periods, where applicable and acceptable to the CAAN .

1.1.8 Provision to record the date and reference of approved amendments incorporated in the maintenance programme.

1.1.9 Details of pre-flight maintenance tasks that are accomplished by maintenance staff.

1.1.10 The tasks and the periods (intervals/frequencies) at which each part of the aircraft, engines, APU's, propellers, components, accessories, equipment, instruments, electrical and radio apparatus, together with the associated systems and installations should be inspected. This should include the type and degree of inspection required.

1.1.11 The periods at which components should be checked, cleaned, lubricated, replenished, adjusted and tested.

1.1.12 If applicable details of ageing aircraft system requirements together with any specified sampling programmes.

1.1.13 If applicable details of specific structural maintenance programmes where issued by the type certificate holder including but not limited to:

- a. Maintenance of structural Integrity by damage Tolerance and Supplemental Structural Inspection Programmes (SSID).
- b. Structural maintenance programmes resulting from the SB review performed by the TC holder.
- c. Corrosion prevention and control.
- d. Repair Assessment.
- e. Widespread Fatigue Damage

1.1.14 If applicable a statement of the limit of validity in terms of total flight cycles/calendar date/flight hours for the structural programme in 1.1.13.

1.1.15 The periods at which overhauls and/or replacements by new or overhauled components should be made.

1.1.16 A cross-reference to other documents approved by the CAAN which contain the details of maintenance tasks related to mandatory life limitations, Certification Maintenance Requirements (CMR's) and ADs.

Note: To prevent inadvertent variations to such tasks or intervals these items should not be included in the main portion of the maintenance programme document, or any planning control system, without specific identification of their mandatory status.

1.1.17 Details of, or cross-reference to, any required reliability programme or statistical methods of continuous Surveillance.

1.1.18 A statement that practices and procedures to satisfy the programme should be to the standards specified in the TC holder's Maintenance Instructions. In the case of approved practices and procedures that differ, the statement should refer to them.

1.1.19 Each maintenance task quoted should be defined in a definition section of the programme.

2 Programme basis

2.1 An owner or an M.A Subpart G approved organisation's aircraft maintenance programme should normally be based upon the MRB report, where applicable, and the TC holder's maintenance planning document or Chapter 5 of the maintenance manual, (i.e. the manufacturer's recommended maintenance programme). The structure and format of these maintenance recommendations may be rewritten by the owner or the M.A Subpart G approved organisation to better suit the operation and control of the particular maintenance programme.

2.2 For a newly type-certificated aircraft where no previously approved maintenance programme exists, it will be necessary for the owner or the M.A Subpart G approved organisation to comprehensively appraise the manufacturer's recommendations (and the MRB report where applicable), together with other airworthiness information, in order to produce a realistic programme for approval.

2.3 For existing aircraft types it is permissible for the operator to make comparisons with maintenance programmes previously approved. It should not be assumed that a programme approved for one owner or the M.A Subpart G approved organisation would automatically be

approved for another. Evaluation should be made of the aircraft/fleet utilisation, landing rate, equipment fit and, in particular, the experience of the owner or the M.A Subpart G approved organisation when assessing an existing programme.

Where the CAAN is not satisfied that the proposed maintenance programme can be used as is, the CAAN should request appropriate changes such as additional maintenance tasks or de-escalation of check frequencies as necessary.

3 Amendments

Amendments (revisions) to the approved maintenance programme should be made by the owner or the M.A Subpart G approved organisation, to reflect changes in the TC holder's recommendations, modifications, service experience, or as required by the CAAN .

4 Permitted variations to maintenance periods

The owner or the M.A Subpart G approved organisation may only vary the periods prescribed by the programme with the approval of the CAAN or through a procedure developed in the maintenance programme and approved by the CAAN .

5 Periodic review of maintenance programme contents

5.1 The owner or the M.A Subpart G approved organisation's approved maintenance programmes should be subject to periodic review to ensure that they reflect current TC holder's recommendations, revisions to the MRB report if applicable, mandatory requirements and the maintenance needs of the aircraft.

5.2 The owner or the M.A Subpart G approved organisation should review the detailed requirements at least annually for continued validity in the light of operating experience.

6. Reliability Programmes

6.1 Applicability

6.1.1 A reliability programme should be developed in the following cases:

- a. the aircraft maintenance programme is based upon MSG-3 logic
- b. the aircraft maintenance programme includes condition monitored components
- c. the aircraft maintenance programme does not contain overhaul time periods for all significant system components
- d. when specified by the Manufacturer's maintenance planning document or MRB.

6.1.2 A reliability Programme need not be developed in the following cases:

- a. the maintenance programme is based upon the MSG-1 or 2 logic but only contains hard time or on condition items
- b . the aircraft is not a large aircraft according to CAR-M

c. the aircraft maintenance programme provides overhaul time periods for all significant system components.

Note : for the purpose of this paragraph, a significant system is a system the failure of which could hazard the aircraft safety.

6.1.3 Notwithstanding paragraphs 6.1.1 and 6.1.2 above, an M.A.Subpart G organisation may however, develop its own reliability monitoring programme when it may be deemed beneficial from a maintenance planning point of view.

6.2 Applicability for M.A.Subpart G organisation/operator of small fleets of aircraft

6.2.1 For the purpose of this paragraph, a small fleet of aircraft is a fleet of less than 6 aircraft of the same type.

6.2.2 The requirement for a reliability programme is irrespective of the M.A.Subpart G organisation's fleet size.

6.2.3 Complex reliability programmes could be inappropriate for a small fleet. It is recommended that such M.A. Subpart G organisations tailor their reliability programmes to suit the size and complexity of operation.

6.2.4 One difficulty with a small fleet of aircraft consists in the amount of available data which can be processed: when this amount is too low, the calculation of alert level is very coarse. Therefore "alert levels" should be used carefully.

6.2.5 An M.A.Subpart G organisation of a small fleet of aircraft, when establishing a reliability programme, should consider the following:

(a) The programme should focus on areas where a sufficient amount of data is likely to be processed.

(b) When the amount of available data is very limited, the M.A. Subpart G organisation's engineering judgement is then a vital element. In the following examples, careful engineering analysis should be exercised before taking decisions:

- A "0" rate in the statistical calculation may possibly simply reveal that enough statistical data is missing, rather than there is no potential problem.

- When alert levels are used, a single event may have the figures reach the alert level. Engineering judgement is necessary so as to discriminate an artefact from an actual need for a corrective action.

- In making his engineering judgement, an M.A.Subpart G organisation is encouraged to establish contact and make comparisons with other M.A. Subpart G organisations of the same aircraft, where possible and relevant. Making comparison with data provided by the manufacturer may also be possible.

6.2.6 In order to obtain accurate reliability data, it should be recommended to pool data and analysis with one or more other M.A. Subpart G organisation(s).

Paragraph 6.6 of this paragraph specifies under which conditions it is acceptable that M.A. Subpart G organisations share reliability data.

6.2.7 Notwithstanding the above there are cases where the M.A. Subpart G organisation will be unable to pool data with other M.A. Subpart G organisation, e.g. at the introduction to service of a new type. In that case the CAAN should impose additional restrictions on the MRB/MPD tasks intervals (e.g. no variations or only minor evolution are possible, and with the CAAN approval).

6.3 Engineering judgement

6.3.1 Engineering judgement is itself inherent to reliability programmes as no interpretation of data is possible without judgement. In approving the M.A.

Subpart G organisation's maintenance and reliability programmes, the CAAN is expected to ensure that the organisation which runs the programme (it may be the M.A. Subpart G organisation, or an NCAR-145 organisation under contract) hires sufficiently qualified personnel with appropriate engineering experience and understanding of reliability concept (see AMC M.A.706)

6.3.2 It follows that failure to provide appropriately qualified personnel for the reliability programme may lead the CAAN to reject the approval of the reliability programme and therefore the aircraft maintenance programme.

6.4 Contracted maintenance

6.4.1 Whereas M.A.302 specifies that, the aircraft maintenance programme –which includes the associated reliability programme–, should be managed and presented by the M.A. Subpart G organisation to the CAAN, it is understood that the M.A. Subpart G organisation may delegate certain functions to the NCAR-145 organisation under contract, provided this organisation proves to have the appropriate expertise.

6.4.2 These functions are:

- a. Developing the aircraft maintenance and reliability programmes,
- b. Performing the collection and analysis of the reliability data,
- c. Providing reliability reports, and
- d. Proposing corrective actions to the M.A. Subpart G organisation.

6.4.3 Notwithstanding the above decision to implement a corrective action (or the decision to request from the CAAN the approval to implement a corrective action) remains the M.A. Subpart G organisation's prerogative and responsibility. In relation to paragraph 6.4.2(d) above, a decision not to implement a corrective action should be justified and documented.

6.4.4 The arrangement between the M.A. Subpart G organisation and the N

NCAR-145 organisation should be specified in the maintenance contract (see appendix 11) and the relevant CAME, and MOE procedures.

6.5 Reliability programme

In preparing the programme details, account should be taken of this paragraph.
All associated procedures should be clearly defined.

6.5.1.1 Objectives

6.5.1.1 A statement should be included summarising as precisely as possible the prime objectives of the programme. To the minimum it should include the following:

- a) to recognise the need for corrective action,
- b) to establish what corrective action is needed and,
- c) to determine the effectiveness of that action

6.5.1.2 The extent of the objectives should be directly related to the scope of the programme. Its scope could vary from a component defect monitoring system for a small M.A. Subpart G organisation, to an integrated maintenance management programme for a big M.A. Subpart G organisation. The manufacturer's maintenance planning documents may give guidance on the objectives and should be consulted in every case.

6.5.1.3 In case of a MSG-3 based maintenance programme, the reliability programme should provide a monitor that all MSG-3 related tasks from the maintenance programme are effective and their periodicity is adequate.

6.5.2 Identification of items.

The items controlled by the programme should be stated, e.g. by ATA Chapters. Where some items (e.g. aircraft structure, engines, APU) are controlled by separate programmes, the associated procedures (e.g. individual sampling or life development programmes, constructor's structure sampling programmes) should be cross referenced in the programme.

6.5.3 Terms and definitions.

The significant terms and definitions applicable to the programme should be clearly identified. Terms are already defined in MSG-3, NCAR- and CAR-M.

6.5.4 Information sources and collection.

6.5.4.1 Sources of information should be listed and procedures for the transmission of information from the sources, together with the procedure for collecting and receiving it, should be set out in detail in the CAME or MOE as appropriate.

6.5.4.2 The type of information to be collected should be related to the objectives of the Programme and should be such that it enables both an overall broad based assessment of the information to be made and also allow for assessments to be made as to whether any reaction, both to trends and to individual events, is necessary. The following are examples of the normal prime sources:

- a. Pilots Reports.

- b. Technical Logs.
- c. Aircraft Maintenance Access Terminal / On-board Maintenance System readouts.
- d. Maintenance Worksheets.
- e. Workshop Reports.
- f. Reports on Functional Checks.
- g. Reports on Special Inspections
- h. Stores Issues/Reports.
- i. Air Safety Reports.
- j. Reports on Technical Delays and Incidents.
- k. Other sources: ETOPS, RVSM, CAT II/III.

6.5.4.3 In addition to the normal prime sources of information, due account should be taken of continuing airworthiness and safety information promulgated under CAR-21

6.5.5 Display of information.

Collected information may be displayed graphically or in a tabular format or a combination of both. The rules governing any separation or discarding of information prior to incorporation into these formats should be stated. The format should be such that the identification of trends, specific highlights and related events would be readily apparent.

6.5.5.1 The above display of information should include provisions for “nil returns” to aid the examination of the total information.

6.5.5.2 Where “standards” or “alert levels” are included in the programme, the display of information should be oriented accordingly.

6.5.6 Examination, analysis and interpretation of the information.

The method employed for examining, analysing and interpreting the programme information should be explained.

6.5.6.1 Examination.

Methods of examination of information may be varied according to the content and quantity of information of individual programmes. These can range from examination of the initial indication of performance variations to formalised detailed procedures at specific periods, and the methods should be fully described in the programme documentation.

6.5.6.2 Analysis and Interpretation.

The procedures for analysis and interpretation of information should be such as to Section enable the performance of the items controlled by the programme to be measured; they should also facilitate recognition, diagnosis and recording of significant problems. The whole process should be such as to enable a critical assessment to be made of the effectiveness of the programme as a total activity. Such a process may involve:

- a. Comparisons of operational reliability with established or allocated standards (in the initial period these could be obtained from in-service experience of similar equipment of aircraft types).
- b. Analysis and interpretation of trends.
- c. The evaluation of repetitive defects.
- d. Confidence testing of expected and achieved results.
- e. Studies of life-bands and survival characteristics.
- f. Reliability predictions.
- g. Other methods of assessment.

6.5.6.3 The range and depth of engineering analysis and interpretation should be related to the particular programme and to the facilities available. The following, at least, should be taken into account:

- a. Flight defects and reductions in operational reliability.
- b. Defects occurring on-line and at main base.
- c. Deterioration observed during routine maintenance.
- d. Workshop and overhaul facility findings.
- e. Modification evaluations.
- f. Sampling programmes.
- g. The adequacy of maintenance equipment and publications.
- h. The effectiveness of maintenance procedures.
- i. Staff training.
- j. Service bulletins, technical instructions, etc.

6.5.6.4 Where the M.A. Subpart G organisation relies upon contracted maintenance and/or overhaul facilities as an information input to the programme, the arrangements for availability and continuity of such information should be established and details should be included.

6.5.7 Corrective Actions.

6.5.7.1 The procedures and time scales both for implementing corrective actions and for monitoring the effects of corrective actions should be fully described. Corrective actions shall correct any reduction in reliability revealed by the programme and could take the form of:

- a. Changes to maintenance, operational procedures or techniques.
- b. Maintenance changes involving inspection frequency and content, function checks, overhaul requirements and time limits, which will require amendment of the scheduled maintenance periods or tasks in the approved maintenance programme. This may include escalation or de-escalation of tasks, addition, modification or deletion of tasks.
- c. Amendments to approved manuals (e.g. maintenance manual, crew manual).
- d. Initiation of modifications.
- e. Special inspections of fleet campaigns.
- f. Spares provisioning.
- g. Staff training.
- h. Manpower and equipment planning.

Note: Some of the above corrective actions may need the CAAN approval before implementation.

6.5.7.2 The procedures for effecting changes to the maintenance programme should be described, and the associated documentation should include a planned completion date for each corrective action, where applicable.

6.5.8 Organisational Responsibilities.

The organisational structure and the department responsible for the administration of the programme should be stated. The chains of responsibility for individuals and departments (Engineering, Production, Quality, Operations etc.) in respect of the programme, together with the information and functions of any programme control committees (reliability group), should be defined. Participation of the CAAN should be stated. This information should be contained in the CAME or MOE as appropriate.

6.5.9 Presentation of information to the CAAN.

The following information should be submitted to the CAAN for approval as part of the reliability programme:

- (a) The format and content of routine reports.
- (b) The time scales for the production of reports together with their distribution.
- (c) The format and content of reports supporting request for increases in periods between maintenance (escalation) and for amendments to the approved maintenance programme. These reports should contain sufficient detailed information to enable the CAAN to make its own evaluation where necessary.

6.5.10 Evaluation and review.

Each programme should describe the procedures and individual responsibilities in respect of continuous monitoring of the effectiveness of the programme as a whole. The time periods and the procedures for both routine and non-routine reviews of maintenance control should be detailed (progressive, monthly, quarterly, or annual reviews, procedures following reliability “standards” or “alert levels” being exceeded, etc.).

6.5.10.1 Each Programme should contain procedures for monitoring and, as necessary, revising the reliability “standards” or “alert levels”. The organisational responsibilities for monitoring and revising the “standards” should be specified together with associated time scales.

6.5.10.2 Although not exclusive, the following list gives guidance on the criteria to be taken into account during the review.

- (a) Utilisation (high/low/seasonal).
- (b) Fleet commonality.
- (c) Alert Level adjustment criteria.
- (d) Adequacy of data.
- (e) Reliability procedure audit.
- (f) Staff training.
- (g) Operational and maintenance procedures.

6.5.11 Approval of maintenance programme amendment

The CAAN may authorise the M.A.Subpart G organisation to implement in the maintenance programme changes arising from the reliability programme results prior to their formal approval by the authority when satisfied that ;

- (a) the Reliability Programme monitors the content of the Maintenance Programme in a comprehensive manner, and
- (b) the procedures associated with the functioning of the “Reliability Group” provide the assurance that appropriate control is exercised by the Owner/operator over the internal validation of such changes.

6.6 Pooling Arrangements.

6.6.1 In some cases, in order that sufficient data may be analysed it may be desirable to “pool” data: i.e. collate data from a number of M.A. Subpart G organisations of the same type of aircraft. For the analysis to be valid, the aircraft concerned, mode of operation, and maintenance procedures applied must be substantially the same: variations in utilisation between two M.A. Subpart G organisations may more than anything, fundamentally corrupt the analysis. Although not exhaustive the following list gives guidance on the primary factors which need to be taken into account.

- (a) Certification factors, such as: aircraft TCDS compliance (variant) / modification status, including SB compliance.
- (b) Operational Factors, such as: operational environment / utilisation, e.g. low/high/seasonal etc / respective fleet size operating rules applicable (e.g. ETOPS/RVSM/All Weather etc.) / operating procedures / MEL and MEL utilisation
- (c) Maintenance factors, such as: aircraft age maintenance procedures; maintenance standards applicable; lubrication procedures and programme; MPD revision or escalation applied or maintenance programme applicable.

6.6.2 Although it may not be necessary for all of the foregoing to be completely common, it is necessary for a substantial amount of commonality to prevail. Decision should be taken by the CAAN on a case by case basis.

6.6.3 In case of a short term lease agreement (less than 6 month) more flexibility against the para

6.6.1 criteria may be granted by the CAAN , so as to allow the owner/operator to operate the aircraft under the same programme during the lease agreement effectivity.

6.6.4 Changes by any one of the M.A.Subpart G organisation to the above, requires assessment in order that the pooling benefits can be maintained. Where an M.A.Subpart G organisation wishes to pool data in this way, the approval of the CAAN should be sought prior to any formal agreement being signed between M.A. Subpart G organisations.

6.6.5 Whereas this paragraph 6.6 is intended to address the pooling of data directly between M.A.Subpart G organisations, it is acceptable that the M.A.Subpart G organisation

participates in a reliability programme managed by the aircraft manufacturer, when the CAAN is satisfied that the manufacturer manages a reliability programme which complies with the intent of this paragraph.

Appendix II to M.A. 201 (h) 1: Sub-contracting of continuing airworthiness management tasks

1. SUB-CONTRACTED OPERATOR'S CONTINUING AIRWORTHINESS MANAGEMENT TASKS

1.1 To actively control the standards of the sub-contracted organisation the operator should employ a person or group of persons who are trained and competent in the disciplines associated with M.A Subpart G. As such they are responsible for determining what maintenance is required, when it has to be performed and by whom and to what standard, in order to ensure the continued airworthiness of the aircraft being operated.

1.2 The operator should conduct a pre-contract audit to establish that the subcontracted organisation can achieve the standards required by M.A Subpart G in connection with those activities to be sub-contracted.

1.3 The operator should ensure that the sub-contracted organisation has sufficient qualified personnel who are trained and competent in the functions to be subcontracted. In assessing the adequacy of personnel resources the operator should consider the particular needs of those activities that are to be subcontracted, while taking into account the sub-contracted organisations existing commitments.

1.4 To be appropriately approved to contract out continuing airworthiness management tasks the operator should have procedures for the management control of these arrangements. The operator's continuing airworthiness management exposition should contain relevant procedures to reflect his control of those arrangements made with the sub-contracted organisation.

1.5 Sub-contracted continuing airworthiness management tasks should be addressed in a contract between the operator and the sub-contracted organisation. The contract should also specify that the sub-contracted organisation is responsible for informing the operator who is in turn responsible for notifying the CAAN, of any subsequent changes that affect their ability to support the contract.

1.6 Organisations providing continuing airworthiness management tasks to support commercial air transport operators should use procedures which set out the manner by which the organisation fulfils its responsibility to those subcontracted activities. Such procedures may be developed by either the subcontracted organisation or the operator.

1.7 Where the sub-contracted organisation develops its own procedures these should be compatible with the operator's continuing airworthiness management exposition and the terms of the contract. These should be accepted by the CAAN as extended procedures of the operator and as such should be crossreferenced from the continuing airworthiness management exposition. One current copy of the sub-contracted organisation's relevant procedures should be kept by the operator and should be accessible to the CAAN where needed.

Note: Should any conflict arise between the sub-contracted organisation's procedures and those of the operator then the policy and procedures of the continuing airworthiness management exposition will prevail.

1.8 The contract should also specify that the sub-contracted organisation's procedures may only be amended with the agreement of the operator. The operator should ensure that these amendments are compatible with their continuing airworthiness management exposition and in compliance with M.A Subpart G. The operator should nominate who will be responsible for continued monitoring and acceptance of the sub-contracted organisation procedures and their amendments. The controls used to fulfill this function should be clearly set out in the amendment section of the continuing airworthiness management exposition detailing the level of operator involvement.

1.9 Whenever any elements of continuing airworthiness management tasks are sub-contracted the operator's continuing airworthiness management personnel should have access to all relevant data in order to fulfill their responsibilities.

Note: The operator retains authority to override where necessary for the continuing airworthiness of their aircraft, any recommendation of the subcontracted organisation.

1.10 The operator should ensure that the sub-contracted organisation continues to have qualified technical expertise and sufficient resources to perform the subcontracted tasks while in compliance with the relevant procedures. Failure to do so may invalidate the approval of the operators continuing airworthiness management system.

1.11 The contract should provide for CAAN monitoring.

1.12 The contract should address the respective responsibilities to ensure that any findings arising from the CAAN monitoring will be closed to the satisfaction of the CAAN .

2. ACCOMPLISHMENT

This paragraph describes topics, which may be applicable in such a sub-contract arrangements.

2.1 Scope of work

The type of aircraft and their registrations, engine types and/or component subject to the continuing airworthiness management tasks contract should be specified.

2.2 Maintenance programme development and amendment

The operator may sub-contract the preparation of the draft maintenance programme and any subsequent amendments. However, the operator remains responsible for assessing that the draft proposals meet his needs and obtaining CAAN approval; the relevant procedures should specify these responsibilities. The contract should also stipulate that any data necessary to substantiate the approval of the initial programme or an amendment to this programme should be provided for operator agreement and/or CAAN upon request.

2.3 Maintenance programme effectiveness and reliability The operator should have in place a system to monitor and assess the effectiveness of the maintenance programme based on maintenance and operational experience. The collection of data and initial assessment may be made by the sub-contracted organisation; the required actions are to be endorsed by the operator. Where reliability monitoring is used to establish maintenance programme effectiveness, this may be provided by the sub-contracted organisation and should be specified in the relevant

procedures. Reference should be made to the operators approved maintenance programme and reliability programme.

Participation of the operator's personnel in reliability meetings with the subcontracted organisation should also be specified.

In providing reliability data the sub-contracted organisation is limited to working with primary data/documents provided by the operator or data provided by the operators contracted maintenance organisation(s) from which the reports are derived. The pooling of reliability data is permitted if accepted by the CAAN.

2.4 Permitted variations to maintenance programme.

The reasons and justification for any proposed variation to scheduled maintenance may be prepared by the sub-contracted organisation. Acceptance of the proposed variation should be granted by the operator. The means by which the operator acceptance is given should be specified in the relevant procedures. When outside the limits set out in the maintenance programme, the operator is required to obtain approval by CAAN.

2.5 Scheduled maintenance

Where the sub-contracted organisation plans and defines maintenance checks or inspections in accordance with the approved maintenance programme, the required liaison with the operator, including feedback should be defined. The planning control and documentation should be specified in the appropriate supporting procedures. These procedures should typically set out the operator's level of involvement in each type of check. This will normally involve the operator assessing and agreeing to a work specification on a case by case for base maintenance checks. For routine line maintenance checks this may be controlled on a day-to-day basis by the sub-contracted organisation subject to appropriate liaison and operator controls to ensure timely compliance. This typically may include, but is not necessarily limited to:

- (a) Applicable work package, including job cards,
- (b) Scheduled component removal list,
- (c) ADs to be incorporated,
- (d) Modifications to be incorporated

The associated procedures should ensure that the operator is advised in a timely manner on the accomplishment of such tasks.

2.6 Quality monitoring

The operator's quality system should monitor the adequacy of the sub-contracted continuing airworthiness management task performance for compliance with the contract and M.A Subpart G. The terms of the contract should therefore include a provision allowing the operator to perform a quality surveillance (including audits) upon the sub-contracted organisation. The aim of the surveillance is primarily to investigate and judge the effectiveness of those sub-contracted activities and thereby to ensure compliance with M.A Subpart G and the contract. Audit reports may be subject to review when requested by the CAAN .

2.7 Access by the CAAN

The contract should specify that the sub-contracted organisation should always grant access to the CAAN .

2.8 Maintenance data

The maintenance data used for the purpose of the contract should be specified, together with those responsible for providing such documentation and the CAAN responsible for the acceptance/approval of such data when applicable. The operator should ensure such data including revisions is readily available to the operator's continuing airworthiness management personnel and those in the subcontracted organisation who may be required to assess such data. The operator should establish a 'fast track' means of ensuring that urgent data is transmitted to the sub-contractor in a timely manner. Maintenance data may include, but is not necessarily limited to:

- (a) Maintenance programme,
- (b) ADs,
- (c) Service Bulletins,
- (d) Major repairs/modification data,
- (e) Aircraft Maintenance Manual,
- (f) Engine overhaul manual,
- (g) Aircraft IPC,
- (h) Wiring diagrams,
- (i) Trouble shooting manual,

2.9 Airworthiness directives

While the various aspects of AD assessment, planning and follow- up may be accomplished by the sub-contracted organisation, embodiment is performed by a NCAR-145 maintenance organisation. The operator is responsible for ensuring timely embodiment of applicable ADs and is to be provided with notification of compliance. It therefore follows that the operator should have clear policies and procedures on AD embodiment supported by defined procedures which will ensure that the operator agrees to the proposed means of compliance.

The relevant procedures should specify:

- What information (e.g. AD publications, continuing airworthiness records, flight hours/cycles, etc.) the sub-contracted organisation needs from the operator.
- What information (e.g. AD planning listing, detailed engineering order, etc) the operator needs from the sub-contracted organisation in order to ensure timely compliance with ADs.

To fulfill their above responsibility, operators should ensure that they are in receipt of current mandatory continued airworthiness information for the aircraft and equipment that they operate.

2.10 Service bulletin/modifications

The sub-contracted organisation may be required to review and make recommendations on embodiment of an SB and other associated non-mandatory material based on a clear operator policy. This should be specified in the contract.

2.11 Service life limit controls & component control/removal forecast.

Where the sub-contracted organisation performs planning activities, it should be specified that the organisation should be in receipt of the current flight cycles; flight hours; landings and/or calendar controlled details as applicable, at a frequency to be specified in the contract. The frequency should be such that it allows the organisation to properly perform the sub-contracted planning functions. It therefore follows that there will need to be adequate liaison between the operator, his NCAR-145 maintenance organisation(s) and the sub-contracted organisation. Additionally the contract should specify how the operator will be in possession of all current flight cycles, flight hours, etc. in order that the operator may assure the timely accomplishment of the required maintenance.

2.12 2.12 Engine health monitoring

If the operator sub- contracts the on wing engine health monitoring, the subcontracted organisation should be in receipt of all the relevant information to perform this task, including any parameter reading deemed necessary to be supplied by the operator for this control. The contract should also specify what kind of feedback information (such as engine limitation, appropriate technical advice, etc.) the organisation should provide to the operator.

2.13 Defect control

Where the operator has sub-contracted the day-to-day control of technical log deferred defects this should be specified in the contract and should be adequately described in the appropriate procedures. The operator's MEL/CDL provides the basis for establishing which defects may be deferred and associated limits. The procedures should also define the responsibilities and actions to be taken for defects such as AOG situations, repetitive defects, and damage beyond type certificate holder's limits.

For all other defects identified during maintenance, the information should be brought to the attention of the operator who dependant upon the procedural authority granted by the CAAN may determine that some defects can be deferred. Therefore, adequate liaison between the operator, his sub-contracted organisation and contracted NCAR-145 maintenance organisation should be ensured.

The sub-contracted organisation should make a positive assessment of potential deferred defects and consider potential hazards arising from the cumulative effect of any combination of defects. The sub-contracted organisations should liaise with the operator to gain his agreement following this assessment.

Deferment of MEL/CDL allowable defects can be accomplished by a contracted NCAR- 145 organisation in compliance with the relevant technical log procedures, subject to the acceptance by the aircraft commander.

2.14 Mandatory occurrence reporting

All incidents and occurrences that fall within the reporting criteria defined in CAR-M and NCAR-145 should be reported as required by the respective requirements. The operator should

ensure adequate liaison exists with the subcontracted organisation and the NCAR-145 organisation.

2.15 Continuing airworthiness records

These may be maintained and kept by the sub-contracted organisation on behalf of the operator who remains the owner of these documents. However, the operator should be provided with the current status of AD compliance and service life limited components in accordance with agreed procedures. The operator should also be provided with unrestricted and timely access to original records as and when needed. On-line access to the appropriate information systems is acceptable. The record keeping requirements of CAR-M should be satisfied. Access to the records by duly authorised members of the CAAN should be arranged upon request.

2.16 Check flight procedures

Check Flights are carried out under the control of the operator. Check flight requirements from the sub-contracted organisation or contracted NCAR-145 maintenance organisations should be agreed by the operator.

2.17 Communication between the operator and sub-contracted organisation

2.17.1 To exercise airworthiness responsibility the operator needs to be in receipt of all relevant reports and relevant maintenance data. The contract should specify what information should be provided and when.

2.17.2 Meetings provide one important corner stone whereby the operator can exercise part of its responsibility for ensuring the airworthiness of the operated aircraft. They should be used to establish good communications between the operator, the subcontracted organisation and, where different to the foregoing, the contracted NCAR-145 organisation. The terms of contract should include whenever appropriate the provision for a certain number of meetings to be held between involved parties. Details of the types of liaison meetings and associated terms of reference of each meeting should be documented. The meetings may include but are not limited to all or a combination of:

a - Contract review

Before the contract is applicable, it is very important that the technical personnel of both parties that are involved in the application of the contract meet in order to be sure that every point leads to a common understanding of the duties of both parties.

b - Work scope planning meeting

Work scope planning meetings may be organised so that the tasks to be performed may be commonly agreed.

c - Technical meeting

Scheduled meetings should be organised in order to review on a regular basis and agree actions on technical matters such as ADs, SBs, future modifications, major defects found during shop visit, reliability, etc...

d - Quality meeting

Quality meetings should be organised in order to examine matters raised by the operator's quality surveillance and the CAAN's monitoring activity and to agree upon necessary corrective actions.

e - Reliability meeting

When a reliability programme exists, the contract should specify the operator's and NCAR-145 approved organisation's respective involvement in that programme, including the participation to reliability meetings. Provision to enable the CAAN participation in the periodical reliability meetings should also be provided.

Table

Appendix IV to AMC M.A.604 Maintenance Organisation Manual

1. Purpose

The maintenance organisation manual is the reference for all the work carried out by the approved maintenance organisation. It should contain all the means established by the organisation to ensure compliance with CAR-M according to the extent of approval and the privileges granted to the organisation.

The maintenance organisation manual should define precisely the work that the approved maintenance organisation is authorised to carry out and the subcontracted work. It should detail the resources used by the organisation, its structure and its procedures.

2. Content

A typical Maintenance Organisation Manual for a small organisation (less than 10 maintenance staff) should be designed to be used directly on a day to day basis. The working documents and lists should be directly included into the manual. It should contain the following:

Part A. — General

— **Table of content**

— **List of effective pages**

— **Record of amendments**

— **Amendment procedure**

1.10 Drafting

1.11 Amendments requiring direct approval by the CAAN

1.12 Approval

— **Distribution**

1.13 Name or title of each person holding a copy of the manual

— **Accountable manager statement**

1.14 Approval of the manual

1.15 Statement that the maintenance organisation manual and any incorporated document identified therein reflect the organisation's means of compliance with CAR-M

1.16 Commitment to work according to the manual

1.17 Commitment to amend the manual when necessary

Part B — Description

— **Organisation's scope of work**

- Description of the work carried out by the organisation (type of product, type of work) and subcontracted work
- Identification of the level of work which can be performed at each facility.

— **General presentation of the organisation**

- Legal name and social status

— **Name and title of management personnel**

- Accountable manager
- Senior managers
- Duties and responsibilities

— **Organisation chart**

— **Certifying staff**

- Minimum qualification and experience
- List of authorised certifying staff

— **Personnel**

- Technical personnel (number, qualifications and experience)
- Administrative personnel (number)

— **General description of the facility**

- Geographical location (map)
- Plan of hangars
- Specialised workshops
- Office accommodation
- Stores
- Availability of all leased facilities.

— **Tools, equipment and material**

- List of tools, equipment and material used (including access to tools used on occasional basis)
- Test apparatus
- Calibration frequencies

— **Maintenance data**

- List of maintenance data used in accordance with M.A.402, and appropriate amendment subscription information (including access to data used on occasional basis).

Part P art C — General Procedures

— **Organisational review**

- a. Purpose (to insure that the approved maintenance organisation continues to meet the requirements of CAR-M)
- b. Responsibility
- c. Organisation, frequency, scope and content (including processing of authority's findings)

- d. Planning and performance of the review
- e. Organisational review checklist and forms
- f. Processing and correction of review findings
- g. Reporting
- h. Review of subcontracted work

— **Training**

- a. Description of the methods used to ensure compliance with the personnel qualification and training requirements (certifying staff training, specialized training)
- b. Description of the personnel records to be retained

— **Contracting**

- a. Selection criteria and control
- b. Nature of contracted work
- c. List of contractors
- d. Nature of arrangements
- e. Assignment of responsibilities for the certification of the work performed

— **One time authorisations**

- a. Maintenance checks
 - b. Certifying staff
- Part P art D — Working Procedures

— **Work order acceptance**

— **Preparation and issue of the work package**

- a. Control of the work order
- b. Preparation of the planned work
- c. Work package content (copy of forms, work cards, procedure for their use, distribution)
- d. Responsibilities and signatures needed for the authorisation of the work

Logistics

- Persons/functions involved
- Criteria for choosing suppliers
- Procedures used for incoming inspection and storage of parts, tools and materials
- Copy of forms and procedure for their use and distribution

— **Execution**

- Persons/functions involved and respective role
- Documentation (work package and work cards)
- Copy of forms and procedure for their use and distribution
- Use of work cards or manufacturer's documentation
- Procedures for accepting components from stores including eligibility check
- Procedures for returning unserviceable components to stores

— **Release to Service – Certifying staff**

- Authorised certifying staff functions and responsibilities

— **Release to Service - Supervision**

- Detailed description of the system used to ensure that all maintenance tasks, applicable to the work requested of the approved maintenance organisation, have been completed as required.
- Supervision content
- Copy of forms and procedure for their use and distribution
- Control of the work package

— **Release to Service – Certificate of release to service**

- Procedure for signing the CRS (including preliminary actions)
- Certificate of release to service wording and standardised form
- Completion of the aircraft continuing airworthiness record system
- Completion of CAAN Form 1
- Incomplete maintenance
- Check flight authorisation
- Copy of CRS and CAAN Form 1

— **Records**

— **Special procedures**

Such as specialised tasks, disposal of unsalvageable components, re-certification of parts not having a CAAN Form 1, etc.

— **Occurrence reporting**

- Occurrences to be reported
- Timeframe of reports
- Information to be reported
- Recipients

— **Management of indirect approval of the manual**

- Amendments content eligible for indirect approval
- Responsibility
- Traceability
- Information to the CAAN
- Final validation

Part E – Appendices

— **Sample of all documents used.**

— **List of maintenance locations.**

— **List of NCAR 145 or M.A. Subpart F organisations.**

4 . Approval

The CAAN should approve the manual in writing. This will normally be done by approving a list of effective pages.

Minor amendments, or amendments to a large capability list, can be approved indirectly, through a procedure approved by the CAAN .

5 . Continuous compliance with CAR-M

When a maintenance organisation manual no longer meets the requirements of this CAR-M, whether through a change in CAR-M, a change in the organisation or its activities, or through an inadequacy shown to exist by verification inspections conducted under the organisational review, or any other reason that affects the manuals conformity to requirements, the approved maintenance organisation is responsible to prepare and have approved an amendment to its manual.

6. Distribution

The manual describes how the organisation works therefore the manual or relevant parts thereof need to be distributed to all concerned staff in the organisation and contracted organisations.

Appendix V to AMC M.A.704
Continuing airworthiness management organisation exposition

CONTINUING AIRWORTHINESS MANAGEMENT EXPOSITION

TABLE OF CONTENT

Part 0 General organisation

- 0.1 Corporate commitment by the accountable manager.
- 0.2 General information.
- 0.3 Management personnel.
- 0.4 Management organisation chart.
- Notification procedure to the CAAN regarding changes of the organization management
- 0.5 Organisation's activities / approval / location / personnel.
- 0.6 Exposition amendment procedures.

Part 1 Continuing airworthiness management procedures

- 1.1 Aircraft technical log utilisation and MEL application (commercial air transport). Aircraft continuing airworthiness record system utilisation (non commercial air transport).
- 1.2 Aircraft maintenance programmes – development amendment and approval.
- 1.3 Time and continuing airworthiness records, responsibilities, retention, access.
- 1.4 Accomplishment and control of airworthiness directives.
- 1.5 Analysis of the effectiveness of the maintenance programme(s).
- 1.6 Non mandatory modification embodiment policy.
- 1.7 Major modification standards.
- 1.8 Defect reports.
- 1.9 Engineering activity.
- 1.10 Reliability programmes.
- 1.11 Pre-flight inspections.
- 1.12 Aircraft weighing.
- 1.13 Check flight procedures.

Part 2 Quality system

- 2.1 Continuing airworthiness quality policy, plan and audits procedure.
- 2.2 Monitoring of continuing airworthiness management activities.
- 2.3 Monitoring of the effectiveness of the maintenance programme(s).
- Monitoring that all maintenance is carried out by an appropriate maintenance Organisation
- 2.4 Monitoring that all contracted maintenance is carried out in accordance with the
- 2.5 contract, including sub-contractors used by the maintenance contractor.
- 2.6 Quality audit personnel.

Part 3 Contracted Maintenance

- 3.1 Maintenance contractor selection procedure.
- 3.2 Quality audit of aircraft.

Part 4 Airworthiness review procedures

- 4.1 Airworthiness review staff.
- 4.2 Review of aircraft records.
- 4.3 Physical survey.
- 4.4 Additional procedures for recommendations to CAAN for the import of aircraft
- 4.5 Recommendations to CAAN for the issue of ARC.
- 4.6 Issuance of ARC.
- 4.7 Airworthiness review records, responsibilities, retention and access.

Part 5 Appendices

- 5.1 Sample documents.
- 5.2 List of airworthiness review staff.
- 5.3 List of sub-contractors as per AMC M.A.201 (h) 2 and M.A.711 (a) 3.
- 5.4 List of approved maintenance organisations contracted.
- 5.5 Copy of contracts for sub-contracted work (appendix 2 to AMC M.A.201 (h) 2).
- 5.6 Copy of contracts with approved maintenance organisations.

LIST OF EFFECTIVE PAGES

Page Revision Page Revision Page Revision
1 Original 3 Original 5 Original
2 Original 4 Original

DISTRIBUTION LIST

(The document should include a distribution list to ensure proper distribution of the manual and to demonstrate to the CAAN that all personnel involved in continuing airworthiness has access to the relevant information. This does not mean that all personnel have to be in receipt of a manual but that a reasonable amount of manuals are distributed within the organisation(s) so that the concerned personnel may have quick and easy access to this manual. Accordingly, the continuing airworthiness management exposition should be distributed to: 2 the operator's or the organisation's management personnel and any person at a lower level as necessary; and, 3 the NCAR-145 or M.A. Subpart F contracted maintenance organisation(s) ; and, 4 the CAAN

PART 0 GENERAL ORGANISATION

0.1 Corporate commitment by the accountable manager

(The accountable manager's exposition statement should embrace the intent of the following paragraph and in fact this statement may be used without amendment. Any modification to the statement should not alter the intent.)

This exposition defines the organisation and procedures upon which the M.A. Subpart G approval of XXX under CAR-M is based.

These procedures are approved by the undersigned and must be complied with, as applicable; in order to ensure that all the continuing airworthiness activities including maintenance for aircraft managed by XXX is carried out on time to an approved standard.

It is accepted that these procedures do not override the necessity of complying with any new or amended regulation published by the CAAN from time to time where these new or amended regulations are in conflict with these procedures.

The CAAN will approve this organisation whilst the CAAN is satisfied that the procedures are being followed. It is understood that the CAAN reserves the right to suspend, vary or revoke the M.A. Subpart G continuing airworthiness management approval of the organisation, as applicable, if the CAAN has evidence that the procedures are not followed and the standards not upheld.

In the case of commercial air transport, suspension or revocation of the approval of the CAR- M Subpart G continuing airworthiness management approval would invalidate the AOC.

0.2 General Information

a) Brief description of the organisation

(This paragraph should describe broadly how the whole organisation [i.e. including the whole operator in the case of commercial air transport or the whole organisation when other approvals are held] is organised under the management of the accountable manager, and should refer to the organisation charts of paragraph 0.4.)

b) Relationship with other organisations

(This paragraph may not be applicable to every organisation.)

(1) Subsidiaries / mother company

(For clarity purpose, where the organisation belongs to a group, this paragraph should explain the specific relationship the organisation may have with other members of that group - e.g. links between XXX Airlines, XXX Finance, XXX Leasing, XXX Maintenance, etc...)

(2) Consortiums

(Where the organisation belongs to a consortium, it should be indicated here. The other members of the consortium should be specified, as well as the scope of organisation of the consortium [e.g. operations, maintenance, design (modifications and repairs), production etc...]. The reason for specifying this is that consortium maintenance may be controlled through specific contracts and through consortium's policy and/or procedures manuals that might unintentionally override the maintenance contracts. In addition, in respect of international consortiums, the respective competent authorities should be consulted and their agreement to the arrangement clearly stated. This paragraph should then make reference to any consortium's continuing airworthiness related manual or procedure and to any CAAN agreement that would apply.)

c) Aircraft managed – Fleet composition

(This paragraph should quote the aircraft types and the number of aircraft of each type. The following is given as an example :)

XXX manages, as of 28 November 2003, the following:

- . 3 B737-300
- . 3 B737-400
- . 1 A 320-200
- . 14 F27 (MK500), etc...

For commercial air transport, the fleet composition reference with the aircraft registrations is given by XXX Airlines' current AOC (or else where e.g. in the Operation Manual, by agreement of the CAAN)

(Depending on the number of aircraft, this paragraph may be updated as follows:

- 1) the paragraph is revised each time an aircraft is removed from or added in the list.*
- 2) the paragraph is revised each time a type of aircraft or a significant number of aircraft is removed from or added to the list. In that case the paragraph should explain where the current list of aircraft managed is available for consultation.)*

d) Type of operation

(This paragraph should give broad information on the type of operations such as: commercial, aerial work, non commercial, long haul/short haul/regional, scheduled/charter, regions/countries/continents flown, etc)

0.3 Management personnel

a) Accountable manager

(This paragraph should address the duties and responsibilities of the accountable manager as far as CAR M.A. subpart G is concerned and demonstrate that he has corporate authority for ensuring that all continuing airworthiness activities can be financed and carried out to the required standard.)

b) Nominated post holder for continuing airworthiness (for commercial air transport)

(This paragraph should: Emphasise that the nominated post holder for continuing airworthiness is responsible to ensure that all maintenance is carried out on time to an approved standard. Describe the extent of his authority as regards his CAR-M responsibility for continuing airworthiness. This paragraph is not necessary for organisations not holding an AOC)

c) Continuing airworthiness coordination

(This paragraph should list the job functions that constitute the "group of persons" as required by M.A.706(c) in enough detail so as to show that all the continuing airworthiness responsibilities as described in CAR-M are covered by the persons that constitute that group. In the case of small operators, where the "Nominated Post holder for continuing airworthiness constitutes himself the "group of persons", this paragraph may be merged with the previous one.)

d) Duties and responsibilities

(This paragraph should further develop the duties and responsibilities of: -the personnel listed in paragraphs c): "Continuing airworthiness coordination " -the quality manager, as regards the quality monitoring of the maintenance system [which includes the approved maintenance organisation(s)]

e) Manpower resources and training policy

(1) Manpower resources

(This paragraph should give broad figures to show that the number of people dedicated to the performance of the approved continuing airworthiness activity is adequate. It is not necessary to give the detailed number of employees of the whole company but only the number of those involved in continuing airworthiness. This could be presented as follows:)

As of 28 November 2003, the number of employees dedicated to the performance of the continuing airworthiness management system is the following:

CIVIL AVIATION AUTHORITY OF NEPAL
PART M
ACCEPTABLE MEANS OF COMPLIANCE

	Full Time Part Time in	equivalent full
Quality monitoring	AA	aa = AA'
Continuing airworthiness Management	BB	bb = BB'
<i>(Detailed information about The</i>	BB1	bb1 = BB1'
<i>management group of persons)</i>	BB2	bb2 = BB2'
Other...	CC	cc =CC'
Total	TT	tt = TT'
Total Man hours	TT + TT'	

Full Time Part Time in equivalent full time
Quality monitoring AA aa = AA'
Continuing airworthiness BB bb = BB'management

(Detailed information about BB1 bb1 = BB1'The management group of BB2 bb2 = B2' persons)

Other... CC cc =CC' Total TT tt = TT'

Total Man hours TT + TT'

(This paragraph should give broad figures to show that the number of people dedicated to the performance of the approved continuing airworthiness activity is adequate. It is not necessary to give the detailed number of employees of the whole company but only the number of those involved in continuing airworthiness. This could be presented as follows:)

As of 28 November 2003, the number of employees dedicated to the performance of the continuing airworthiness management ent system is the following:

(Note: According to the size and complexity of the organisation, this table may be further developed or simplified)

(2) Training policy

(This paragraph should show that the training and qualification standards for the personnel quoted above are consistent with the size and complexity of the organisation. It should also explain how the need for recurrent training is assessedand how the training recording and follow-up is performed)

0.4 Management organisation charts

a) General organisation chart

0.5 Notification procedure to the CAAN regarding changes to the organisation's activities / approval / location / personnel

(This paragraph should explain in which occasion the company should inform the CAAN prior to incorporating proposed changes; for instance: The accountable manager (or any delegated person such as the engineering director or the quality manager) will notify to the CAAN any change concerning:

1.1 1 .1 the company's name and location(s)

1.2 the group of person as specified in paragraph 0.3.c)

1.3 operations, procedures and technical arrangements, as far as they may affect the approval.

XXX will not incorporate such change until the change have been assessed and approved by the CAAN .)

0.6 Exposition amendment procedure

(This paragraph should explain who is responsible for the amendment of the exposition and submission to the CAAN for approval. This may include, if agreed by the CAAN the possibility for the approved organisation to approve internally minor changes that have no impact on the approval held. The paragraph should then specify what types of changes are considered as minor and major and what the approval procedures for both cases are.)

PART 1 CONTINUING AIRWORTHINESS MANAGEMENT PROCEDURES

1.1 1.1 Aircraft technical log utilisation and MEL application or

1.1 Aircraft continuing airworthiness record system utilisation

a) Aircraft technical log and/or continuing airworthiness record system

(1) General

(It may be useful to remind, in this introduction paragraph, the purpose of the aircraft technical log system and/or continuing airworthiness record system, with special care to the options of M.A.305 and M.A.306 For that purpose, paragraphs of M.A.305 and M.A.306 may be quoted or further explained.)

(2) Instructions for use

(This paragraph should provide instructions for using the aircraft technical log and/or continuing airworthiness record system. It should insist on the respective responsibilities of the maintenance personnel and operating crew. Samples of the technical log and/or continuing airworthiness record system should be included in Part 5 "Appendices" in order to provide enough detailed instructions.)

(3) Aircraft technical log approval (For commercial air transport)

(This paragraph should explain who is responsible for submitting the aircraft technical log any subsequent amendment to the CAAN for approval and what is the procedure to be followed)

b) M.E.L. application

(Although the MEL is a document that is normally not controlled by the continuing airworthiness management system, and that the decision of whether accepting or not a MEL tolerance normally remains the responsibility of the operating crew, this paragraph should explain in sufficient detail the MEL application procedure, because the MEL is a tool that the personnel involved in maintenance have to be familiar with in order to ensure proper and efficient communication with the crew in case of a defect rectification to be deferred.)

(This paragraph does not apply to those types of aircraft that do not have an MEL or are not used for commercial air transport and that are not required to have one.)

(1) General

(This paragraph should explain broadly what a MEL document is. The information could be extracted from the aircraft flight manual.)

(2) MEL categories

(Where an owner/operator uses a classification system placing a time constraint on the rectification of such defect, it should be explained here what are the general principles of such a system. It is essential for the personnel involved in maintenance to be familiar with it for the management of MEL's deferred defect rectification.)

(3) Application

(This paragraph should explain how the maintenance personnel identify a MEL limitation to the crew. This should refer to the technical log procedures)

(4) Acceptance by the crew (For commercial air transport)

(This paragraph should explain how the crew notifies his acceptance or non acceptance of the MEL deferment in the technical log)

(5) Management of the MEL time limits

(After a technical limitation is accepted by the crew, the defect must be rectified within the time limit specified in the MEL. There should be a system to ensure that the defect will actually be corrected before that limit. This system could be the aircraft technical log for those [small]operators that use it as a planning document, or a specific follow-up system, in other cases, where control of the maintenance time limit is ensured by another means such as data processed planning systems.)

(6) MEL Time Limitation Overrun

(The CAAN may grant the owner/operator to overrun MEL time limitation under specified conditions. Where applicable this paragraph should describe the specific duties and responsibilities for controlling these extensions.)

1.2 Aircraft maintenance programmes - development and amendment

a) General

(This introductory paragraph should remind that the purpose of a maintenance programme is to provide maintenance planning instructions necessary for the safe operation of the aircraft.)

b) Content

(This paragraph should explain what is [are] the format[s] of the company's aircraft maintenance programme[s]. Appendix I to AMC M.A.302 (a) and M.B.301 (d) should be used as a guideline to develop this paragraph.)

c) Development

(1) Sources

(This paragraph should explain what are the sources [MRB, MPD, Maintenance Manual, etc.] used for the development of an aircraft maintenance programme.)

(2) Responsibilities

(This paragraph should explain who is responsible for the development of an aircraft maintenance programme)

(3) Manual amendments

(This paragraph should demonstrate that there is a system for ensuring the continuing validity of the aircraft maintenance programme. Particularly, it should show how any relevant information is used to update the aircraft maintenance programme. This should include, as applicable, MRB report revisions, consequences of modifications, manufacturers and CAAN recommendations, in service experience, and reliability reports.)

(4) Acceptance by the authority

(This paragraph should explain who is responsible for the submission of the maintenance programme to the CAAN and what the procedure to follow is. This should in particular address the issue of the CAAN approval for variation to maintenance periods. This may include, if agreed by the CAAN the possibility for the approved organisation to approve internally certain changes. The paragraph should then specify what types of changes are concerned and what the approval procedures are.)

1.3 Time and continuing airworthiness records, responsibilities, retention, access

a) Hours and cycles recording

(The recording of flight hours and cycles is essential for the planning of maintenance tasks. This paragraph should explain how the continuing airworthiness management organization has access to the current flight hours and cycle information and how it is processed through the organisation.)

b) Records

(This paragraph should give in detail the type of company documents that are required to be recorded and what are the recording period requirements for each of them. This can be provided by a table or series of tables that would include the following:

- Family of document [if necessary],*
- Name of document,*
- Retention period,*
- Responsible person for retention,*
- Place of retention,)*

c) Preservation of records

(This paragraph should set out the means provided to protect the records from fire, floods, etc.. as well as the specific procedures in place to guarantee that the records will not be altered during the retention period [especially for the computer record].)

d) Transfer of continuing airworthiness records

(This paragraph should set out the procedure for the transfer of records, in case of purchase/lease-in, sale/lease-out and transfer to another organisation of an aircraft. In particular, it should specify which records have to be transferred and who is responsible for the coordination [if necessary] of the transfer.)

1.4 Accomplishment and control of Airworthiness Directives

(This paragraph should demonstrate that there is a comprehensive system for the management of airworthiness directives. This paragraph may for instance include the following Sub-paragraphs:)

a) Airworthiness directive information

(This paragraph should explain what the AD information sources are and who receives them in the company. Where available, redundant sources [e.g. CAAN + manufacturer or association] may be useful.)

b) Airworthiness directive decision

(This paragraph should explain how and by whom the AD information is analysed and what kind of information is provided to the contracted maintenance organisations in order to plan and to perform the airworthiness directive. This should as necessary include a specific procedure for emergency airworthiness directive management)

c) Airworthiness directive control

(This paragraph should specify how the organisation manages to ensure that all the applicable airworthiness directives are performed and that they are performed on time. This should include a close loop system that allows verifying that for each new or revised airworthiness directive and for each aircraft:

(a) the AD is not applicable or,

(b) if the AD is applicable:

- the Airworthiness Directive is not yet performed but the time limit is not overdue,*
- the Airworthiness Directive is performed, and any repetitive inspection are identified and performed.*

This may be a continuous process or may be based on scheduled reviews.)

1.5 Analysis of the effectiveness of the maintenance programme

(this paragraph should show what tools are used in order to analyse the efficiency of the maintenance programme, such as:

-PIREPS,

*-air turn
backs*

-spare consumption,

-repetitive technical occurrence and defect,

-technical delays analysis [through statistics if relevant],

-technical incidents analysis [through statistics if relevant],

-etc...

The paragraph should also indicate by whom and how these data are analysed, what is the decision and decision process to take action and what kind of action could be taken. This may include:

-amendment of the maintenance programme,

-amendment of maintenance or operational procedures,

-etc..)

1.6 Non-mandatory modification embodiment policy

ISSUE 01

ISSUE DATE JULY 2010

REVISION 00

REVISION DATE 00

(This paragraph should specify how the non-mandatory modification information are processed through the organisation, who is responsible for their assessment against the operator's/owner's own need and operational experience, what are the main criteria for decision and who takes the decision of implementing [or not] a non-mandatory modification)

1.7 Major repair modification standards

(This paragraph should set out a procedure for the assessment of the approval status of any major modification before embodiment. This will include the assessment of the need of an Agency or design organisation approval. It should also identify the type of approval required, and the procedure to follow to have a modification approved by the CAAN or design.)

1.8 Defect reports

a) Analysis

(This paragraph should explain how the defect reports provided by the contracted maintenance organisations are processed by the continuing airworthiness management organisation. Analysis should be conducted in order to give elements to activities such as maintenance programme evolution and non mandatory modification policy.)

b) Liaison with manufacturers and regulatory authorities

(Where a defect report shows that such defect is likely to occur to other aircraft, a liaison should be established with the manufacturer and the certification CAAN , so that they may take all the necessary action.)

c) Deferred defect policy

(Defects such as cracks and structural defect are not addressed in the MEL and CDL. However, it may be necessary in certain cases to defer the rectification of a defect. This paragraph should establish the procedure to be followed in order to be sure that the deferment of any defect will not lead to any safety concern. This will include appropriate liaison with the manufacturer.)

1.9 Engineering activity

(Where applicable, this paragraph should expose the scope of the organisation's engineering activity in terms of approval of modification and repairs. It should set out a procedure for developing and submitting a modification/repair design for approval to the CAAN and include reference to the supporting documentation and forms used. It should identify the person in charge of accepting the design before submission to the CAAN.

Where the organisation has a DOA capability under CAR 21, it should be indicated here and the related manuals should be referred to.)

1.10 Reliability programmes

(This paragraph should explain appropriately the management of a reliability programme. It should at least address the following:

- extent and scope of the operator's reliability programmes,
- specific organisational structure, duties and responsibilities,
- establishment of reliability data,
- analysis of the reliability data,
- corrective action system (maintenance programme amendment),
- scheduled reviews (reliability meetings, the participation of the CAAN .)

(This paragraph may be, where necessary, subdivided as follows:)

- a) Airframe
- b) Propulsion
- c) Component

1.11 Pre-flight inspections

(This paragraph should show how the scope and definition of pre-flight inspection, that are usually performed by the operating crew , is kept consistent with the scope of the maintenance performed by the contracted maintenance organisations. It should show how the evolution of the pre-flight inspection content and the maintenance programme are concurrent, each time necessary.)

(The following paragraphs are self explanatory. Although these activities are normally not performed by continuing airworthiness personnel, these paragraphs have been placed here in order to ensure that the related procedures are consistent with the continuing airworthiness activity procedures.)

- a) Preparation of aircraft for flight
- b) Sub-contracted ground handling function
- c) Security of Cargo and Baggage loading
- d) Control of refueling, Quantity/Quality
- e) Control of snow, ice dust and sand contamination to an approved standard

1.12 Aircraft weighing

(This paragraph should state in which occasion an aircraft has to be weighed [for instance after a major modification because of weight and balance operational requirements, etc.] who performs it, according to which procedure, who calculates the new weight and balance and how the result is processed into the organisation.)

1.13 Check flight procedures

(The criteria for performing a check flight are normally included in the aircraft maintenance programme. This paragraph should explain how the check flight procedure is established in order to meet its intended purpose [for instance after a heavy maintenance check, after engine or flight control removal installation, etc..], and the release procedures to authorise such a check flight.)

PART 2 QUALITY SYSTEM

2.1 Continuing airworthiness quality policy, plan and audits procedure

a) Continuing airworthiness quality policy

(This paragraph should include a formal Quality Policy statement; that is a commitment on what the Quality System is intended to achieve. It should include at the minimum monitoring compliance with CAR- M and any additional standards specified by the organisation.)

b) Quality plan

(This paragraph should show how the quality plan is established. The quality plan will consist of a quality audit and sampling schedule that should cover all the areas specific to CAR-M in a definite period of time. However, the scheduling process should also be dynamic and allow for special evaluations when trends or concerns are identified. In case of subcontracting, this paragraph should also address the planning of the auditing of subcontractors at the same frequency as the rest of the organisation.)

c) Quality audit procedure

(The quality audit is a key element of the quality system. Therefore, the quality audit procedure should be sufficiently detailed to address all the steps of an audit, from the preparation to the conclusion, show the audit report format [e.g. by ref. to paragraph 5.1 "sample of document"], and explain the rules for the distribution of audits reports in the organisation [e.g.: involvement of the Quality Manager, Accountable Manager, Nominated Postholder, etc...].)

d) Quality audit remedial action procedure

(This paragraph should explain what system is put in place in order to ensure that the corrective actions are implemented on time and that the result of the corrective action meets the intended purpose. For instance, where this system consists in periodical corrective actions review, instructions should be given how such reviews should be conducted and what should be evaluated.)

2.2 Monitoring of continuing airworthiness management activities

(This paragraph should set out a procedure to periodically review the activities of the maintenance management personnel and how they fulfill their responsibilities, as defined in Part 0.)

2.3 Monitoring of the effectiveness of the maintenance programme(s)

(This paragraph should set out a procedure to periodically review that the effectiveness of the maintenance programme is actually analysed as defined in Part 1.)

2.4 Monitoring that all maintenance is carried out by an appropriate maintenance organization

(This paragraph should set out a procedure to periodically review that the approval of the contracted maintenance organisations are relevant for the maintenance being performed on the operator's fleet. This may include feed back information from any contracted organisation on any actual or contemplated amendment, in order to ensure that the maintenance system remains valid

and to anticipate any necessary change in the maintenance agreements. If necessary, the procedure may be subdivided as follows:

- a. Aircraft maintenance*
- b. Engines*
- c. Components)*

2.5 Monitoring that all contracted maintenance is carried out in accordance with the contract, including sub-contractors used by the maintenance contractor

(This paragraph should set out a procedure to periodically review that the continuing airworthiness management personnel are satisfied that all contracted maintenance is carried out in accordance with the contract. This may include a procedure to ensure that the system allows all the personnel involved in the contract [including the contractors and his subcontractors] to be acquainted with its terms and that, for any contract amendment, relevant information is dispatched in the organisation and at the contractor.)

2.6 Quality audit personnel

(This paragraph should establish the required training and qualification standards of auditors. Where persons act as a part time auditor, it should be emphasized that this person must not be directly involved in the activity he/she audits.)

PART 3 - CONTRACTED MAINTENANCE

3.1 Maintenance contractor selection procedure

(This paragraph should explain how a maintenance contractor is selected by the continuing airworthiness management organisation. Selection should not be limited to the verification that the contractor is appropriately approved for the type of aircraft, but also that the contractor has the industrial capacity to undertake the required maintenance. This selection procedure should preferably include a contract review process in order to insure that:

- the contract is comprehensive and that no gap or unclear area remains,*
 - every one involved in the contract [both at the continuing airworthiness management organisation and at the maintenance contractor] agrees with the terms of the contract and fully understand his responsibility.*
 - that functional responsibilities of all parties are clearly identified.*
 - is signed by the owner/lessee of the aircraft in the case of non-commercial air transport.*
- In the case of non commercial air transport, this activity should be carried in agreement with the owner.)*

3.2 Quality audit of aircraft

(This paragraph should set out the procedure when performing a quality audit of an aircraft. It should set out the differences between an airworthiness review and quality audit. This procedure may include:

- compliance with approved procedures;*
- contracted maintenance is carried out in accordance with the contract;*
- continued compliance with CAR-M.)*

PART 4 AIRWORTHINESS REVIEW PROCEDURES

4.1 Airworthiness review staff

(This paragraph should establish the working procedures for the assessment of the airworthiness review staff. The assessment addresses experience, qualification, training etc. A description shall be given regarding the issuance of authorisations for the airworthiness review staff and how records are kept and maintained.)

4.2 Review of aircraft records

(This paragraph should describe in detail the aircraft records that are required to be reviewed during the airworthiness review. The level of detail that needs to be reviewed shall be described and the number of records that need to be reviewed during a sample check.)

4.3 Physical survey

(This paragraph should describe how the physical survey needs to be performed. It should list the topics that need to be reviewed, the physical areas of the aircraft to be inspected, which documents onboard the aircraft that need to be reviewed etc.)

4.4 Additional procedures for recommendations to competent authorities for the import of aircraft

(This paragraph should describe the additional tasks regarding the recommendation for the issuance of an airworthiness review certificate in the case of an import of an aircraft. This shall include: communication with the CAAN, additional items to be reviewed during the airworthiness review of the aircraft, specification of maintenance required to be carried out etc.)

4.5 Recommendations to competent authorities for the issue of airworthiness review certificates

(This paragraph should stipulate the communication procedures with the competent authorities in case of a recommendation for the issuance of an airworthiness review certificate. In addition the content of the recommendation should be described.)

4.6 Issuance of airworthiness review certificates

(This paragraph should set out the procedures for the issuance of the ARC. It should address record keeping, distribution of the ARC copies etc. This procedure should ensure that only after an airworthiness review that has been properly carried out, an ARC will be issued.)

4.7 Airworthiness review records, responsibilities, retention and access

(This paragraph should describe how records are kept, the periods of record keeping, location where the records are being stored, access to the records and responsibilities.)

PART 5 APPENDICES

5.1 Sample documents

(A self explanatory paragraph)

5.2 List of airworthiness review staff

(A self explanatory paragraph)

5.3 List of sub-contractors as per AMC M.A.201 (h) 1 and M.A.711 (a) 3.

(A self explanatory paragraph, in addition it should set out that the list should be periodically reviewed)

5.4 List of approved maintenance organisations contracted

(A self explanatory paragraph, in addition it should set out that the list should be periodically reviewed)

5.5 Copy of contracts for subcontracted work (appendix II to AMC M.A.201 (h) 1)

(A self explanatory paragraph)

5.6 Copy of contracts with approved maintenance organisations

(A self explanatory paragraph)

Appendix VIII to AMC M.A.616

This is only applicable to organisations with less than 10 maintenance staff members. For larger organisations, the principles and practices of an independent quality assurance system should be used.

1. Organisational review features.

Organisational review program should be organised as an overall internal evaluation program that has written descriptions of the key elements of the program. The program should have a structured and planned series of evaluations that are designed to improve the quality of all steps and functions in the process that leads to a final safe product while ensuring that subpart F approved maintenance organisation remains in compliance with the requirements.

a. The organisational review program should not be misunderstood as a program that replaces existing CAAN auditing requirements, such as the continuing oversight programs cited in M.B.604. It is comprehensive and includes identifying corrective actions, verifying that those actions have taken place, and ensuring that problems do not re-occur. Further, one of the most critical aspects of an organisational review program is the regular involvement of management, which typically distinguishes it from the normal checks and verifications that each person in the organisation is requested to carry out on work performed to ensure a final safe product and continuous compliance with rules.

b. The organisational review should cover all systems, processes, and products that are basic components of the maintenance organisation's activities. There is no set list of items to be covered since each operation is unique, but a representative list of areas to evaluate would include:

- (1) Facilities and equipment.
- (2) Maintenance scope of work, capability list and limitations versus actual practice including control over any deviation authorisation.
- (3) Personnel qualifications, training, and staffing levels.
- (4) Manuals and airworthiness data.
- (5) Continuity of work and supervision during personnel changes.
- (6) Supplier selection, approval, and surveillance, as applicable.
- (7) Components and materials handling (incoming, tagging, storage, etc.).
- (8) Inspection processes.
- (9) Tool adequacy and calibration.
- (10) Maintenance release process.
- (11) Defect reporting.
- (12) Records and record keeping procedures.
- (13) Communication to the CAAN .

2. Organisational review program.

The following are essential elements of an organisational review program.
Each of these should be described in a program document.

a. As a part of identifying organisational review responsibility, the maintenance organisation should identify resources and personnel that conduct the organisational reviews within the company. Maintenance organisations may decide to use outside resources in support of, or to accomplish organisational reviews. A maintenance organisation's organisational review program should identify the person and/or group within the organisation who has the responsibility and authority to:

- (i) Perform organisational reviews.
- (ii) Identify and record any findings and the evidence necessary to substantiate those findings.
- (iii) Recommend or assist with the development of corrective actions to findings.
- (iv) Verify the implementation of corrective actions consistent with an action plan and validate that corrective actions are effective.

(v) Communicate and coordinate activities with CAAN on a regular basis.
Having a well-structured organisational review programme ensures that all areas of operations are covered at appropriate intervals. It also institutionalises the process so that a change in personnel does not adversely affect the program. The accountable manager is responsible for the organisational review program. He may formally delegate this responsibility to one of the M.A.606 (b) persons. An organisational review program might consist of developing simplified checklist/s and a schedule (monthly, quarterly, semi-annual, or annual) for accomplishing checklist items. The review should at least include a written statement acknowledging the completion of the checklist items and the signature of the person conducting the organisational review. Under these conditions, occasional independent oversight of checklist development and accomplishment should be considered.

b. Reporting to the accountable manager

To be effective, the results of the organisational review program should be submitted to the accountable manager on a regular basis. The accountable manager should analyse the organisational review results to verify that satisfactory corrective actions have been implemented.

c. Follow up process

A follow up process is needed to verify whether findings are isolated instances or actual symptoms of policy, procedural, or managerial problems. A follow up process should include scheduled evaluations, follow-up evaluations as necessary and special evaluations when trends are identified.

d. A plan for scheduling organisational reviews It is essential for a maintenance organisation's organisational review program to include a defined schedule of activities. This planned schedule will serve to verify that the organisational review program is

comprehensive, well controlled, and timely. A schedule also provides a vehicle for keeping management and the entire organisation informed.

The scheduling process should also be dynamic and allow for special organisational reviews. In addition, follow-up organisational reviews should be scheduled as necessary.

All key areas should be reviewed at least once each year

e. Corrective Action Plan

Corrective action plans should be developed in response to findings. The corrective action plans should be monitored to verify their timely and effective implementation.

f. Records

The organisational reviews should be documented in reports and other appropriate records. The organisational review program files should include: scheduled organisational review reports; special organisational review reports, including the trends or other reasons for scheduling a special evaluation; corrective action plans; and results of follow-up evaluations.

The maintenance organisation should maintain and secure these records and provide them upon CAAN request.

3. Training and experience of evaluators.

The evaluators that are used by the maintenance organisation should have a perfect knowledge of the maintenance organisation manual. General experience only is usually insufficient therefore evaluators should be trained on the techniques that can be used for organizational reviews such as regulations, auditing, interview techniques, evaluation principles, and system analysis techniques. Recurrent training - A programme for continuation training should be developed. It should provide for evaluators, at regular intervals, to attend technical training and specific review training to gain first-hand knowledge of new developments.

4. Organisational reviews implementation.

During organisational reviews, the following basic steps should be followed:

Step 1: Understanding the System and its procedures.

The evaluator should analyse the maintenance organisation manual to review how the organisation intends to work in a given field.

Step 2: Identifying Controls.

Once the evaluators have developed a good understanding of how the system operates, the next step is to identify the critical elements which ensure that the organisation remains in compliance with the maintenance organisation's manual.

Step 3: Evaluation Controls

An evaluation of whether the maintenance organisation works in accordance with the maintenance organisation 's manual should be conducted using following techniques:

- review of records, documentation, discrepancies reports, etc.

- sample check of products maintained;
- sample check of actual practices;
- interview of personnel involved;

Step 4: Reporting of results.

A standardised form should be developed for an organisational review report. The report should include at least the following.

(i) Scope of the evaluation. This should include the areas evaluated, personnel interviewed (to be done in general terms to provide management an indication as to the scope and depth of the review without violating any confidentiality), records examined, sampling plans, etc.

(ii) Results. Descriptions of each finding presented in such a manner as to indicate the relative importance of each. This will allow responsible personnel to set priorities for developing responses. A classification as provided in the M.B.605 could be followed.

(iii) Agreed corrective actions.

(iv) Positive results. (Some might be shared between different units within the maintenance organisation.)

Step 5: Developing corrective action plans.

Corrective action plans should be developed principally by the person responsible for implementing the corrective action; however, if the evaluator has properly conducted its evaluation, it will have a detailed understanding of the systems and procedures underlying the problems and should be able to assist with the analysis of alternatives. The evaluator should ensure that a corrective action plan is developed in a timely manner and includes all the key elements, particularly when the corrective action is to be implemented and who is responsible for implementation.

Step 6: Follow-up Evaluations.

To be effective, the organizational review program should have follow-up reviews any time a significant corrective action is planned. The purpose is two-fold: to confirm that the action has taken place as planned and to verify that the corrective action has been effective. If a properly implemented corrective action does not work, new alternatives should be developed as soon as possible. Keeping management aware of the results of follow-up reviews is an essential part of the program.

Appendix XI to AMC to M.A.708(c)

CONTRACTED MAINTENANCE

1. Maintenance contracts

The following paragraphs are not intended to provide a standard maintenance contract but to provide a list of the main points that should be addressed, when applicable, in a maintenance contract between an Operator and a NCAR-145 approved organisation. As only the technical parts of the maintenance contracts have to be acceptable to the CAAN, the following paragraphs only address technical matters and exclude matters such as costs, delay, warranty, etc... When maintenance is contracted to more than one NCAR-145 approved organisation (for example aircraft base maintenance to X, engine maintenance to Y and line maintenance to Z1, Z2 & Z3), attention should be paid to the consistency of the different maintenance contracts.

A maintenance contract is not normally intended to provide appropriate detailed work instruction to the personnel (and is not normally distributed as such). Accordingly there must be established organisational responsibility, procedures and routines in the Operator's M.A. Subpart G & NCAR-145 organisations to take care of these functions in a satisfactory way such that any person involved is informed about his responsibility and the procedures which apply. These procedures and routines can be included/append to the operator's CAME and maintenance organisation's MOE or consist in separate procedures. In other words procedures and routines should reflect the conditions of the contract.

2. Aircraft maintenance

This paragraph applies to a maintenance contract that includes base maintenance and, possibly, line maintenance. Paragraph 4 of this appendix addresses the issue of maintenance contracts restricted to only line maintenance. Aircraft maintenance also includes the maintenance of the engines and APU while they are installed on the aircraft.

2.1 Scope of work

The type of aircraft and engines subject to the maintenance contract must be specified. It should preferably include the aircraft's registration numbers. The type of maintenance to be performed by the NCAR-145 approved organisation should be specified unambiguously.

2.2 Locations identified for the performance of maintenance/ Certificates held

The place(s) where base and line maintenance will be performed should be specified. The certificate held by the maintenance organisation at the place(s) where the maintenance will be performed should be referred to in the contract. If necessary the contract may address the possibility of performing maintenance at any location subject to the need for such maintenance arising either from the unserviceability of the aircraft or from the necessity of supporting occasional line maintenance.

2.3 Subcontracting

The maintenance contract should specify under which conditions the NCAR-145 approved organisation may subcontract tasks to a third party (whether this third party is NCAR-145 approved or not). At least the contract should make reference to NCAR-145.75. Additional guidance is provided by the AMC to 145.A.75. In addition the Operator may require the NCAR-145 approved organisation to request the operator's approval before subcontracting to a third party. Access should be given to the operator to any information (especially the quality monitoring information) about the NCAR-145 approved organisation's subcontractors involved in the contract. It should however be noted that under operators responsibility both the operator and the operator's CAAN are entitled to be fully informed about subcontracting, although the operator's CAAN will normally only be concerned with aircraft, engine and APU subcontracting.

2.4 Maintenance programme

The maintenance programme under which the maintenance has to be performed has to be specified. The operator must have that maintenance Programme approved by its CAAN. When the maintenance programme is used by several operators, it is important to remember that it is the responsibility of each operator to have that maintenance programme approved under its own name by CAAN.

2.5 Quality monitoring

The terms of the contract should include a provision allowing the operator to perform a quality surveillance (including audits) upon the NCAR-145 approved organisation. The maintenance contract should specify how the results of the Quality surveillance are taken into account by the NCAR-145 approved organisation (See also para.2.22. "*Meetings*").

2.6 CAAN involvement

When the operator's and the NCAR-145 approved organisation's competent authorities are not the same, the operator and the NCAR-145 approved organisation have to ensure together with their competent authority that the respective competent authority's responsibilities are properly defined and that, if necessary, delegations have been established.

2.7 Airworthiness data

The airworthiness data used for the purpose of this contract as well as the authority responsible for the acceptance/approval must be specified. This may include, but may not be limited to:

- Maintenance Programme,
- AD's,
- major repairs/modification data,
- aircraft Maintenance Manual,
- aircraft IPC,
- Wiring diagrams,
- Trouble shooting manual,
- Minimum Equipment List (normally on board the aircraft),

- Operations Manual
- Flight Manual

2.8 Incoming Conditions

The contract should specify in which condition the Operator's must send the aircraft to the NCAR-145 approved organisation. For checks of significance i.e. 'C' checks and above, it may be beneficial that a work scope planning meeting be organised so that the tasks to be performed may be commonly agreed (see also paragraph 2.22: "*Meetings*").

2.9 Airworthiness Directives and Service Bulletin/Modifications

The contract should specify what information the operator is responsible to provide to the NCAR-145 approved organisation, such as the due date of the AD, the selected means of compliance, the decision to embody Service Bulletins (SB's) or modification, etc... In addition the type of information the operator will need in return to complete the control of ADs and modification-status should be specified.

2.10 Hours & Cycles control.

Hours and cycles control is the responsibility of the operator, but there may be cases where the NCAR-145 approved organisation must be in receipt of the current flight hours and cycles on a regular basis so that it may update the records for its own planning functions (see also paragraph 2.21: "*Exchange of information*").

2.11 Life limited parts

Life Limited Parts control is the responsibility of the operator.

The NCAR-145 approved organisation will have to provide the operator with all the necessary information about the LLP removal/installation so that the Operator may update its records (see also paragraph 2.21 "*Exchange of information* ").

2.12 Supply of parts.

The contract should specify whether a particular type of material or component comes from the operator's or the NCAR-145 approved organisation's store, which type of component is pooled, etc...Attention should be paid on the fact that it is the NCAR-145 competence and responsibility to be in any case satisfied that the component in question meets the approved data/standard and to ensure that the aircraft component is in a satisfactory condition for fitment. In other words, there is definitely no way for a NCAR-145 organisation to accept whatever he receives from the operator. For the certification of parts, additional guidance is provided by 145.A.42.

2.13 Pooled parts at line stations.

The contract should specify how the subject of pooled parts at line stations should be addressed.

2.14 Scheduled maintenance

For planning scheduled maintenance checks, the support documentation to be given to the NCAR-145 approved organisation should be specified. This may include, but may not be limited to:

- applicable work package, including job cards;
- scheduled component removal list;
- modifications to be incorporated;
- etc...

When the NCAR-145 approved organisation determines, for any reason, to defer a maintenance task, it has to be formally agreed by the Operator. If the deferment goes beyond an approved limit, refer to paragraph 2.17: *"Deviation from the maintenance Schedule"*. This should be addressed, where applicable, in the maintenance contract.

2.15 Unscheduled maintenance/Defect rectification.

The contract should specify to which level the NCAR-145 approved organisation may rectify a defect without reference to the operator. As a minimum, the approval and incorporation of major repairs should be addressed. The deferment of any defect rectification shall be submitted to the operator and, if applicable, to its competent authority.

2.16 Deferred tasks.

See paragraphs 2.14 and 2.15 above and AMC to 145.A.50 (e). In addition, the use of the Operator's MEL and the relation with the Operator in case of a defect that cannot be rectified at the line station should be addressed.

2.17 Deviation from the maintenance schedule.

Deviations have to be requested by the operator to CAAN or granted by the Operator in accordance with a procedure acceptable to its competent authority. The contract should specify the support the NCAR-145 approved organisation may provide to the operator in order to substantiate the deviation request.

2.18 Test flight.

If any test flight is required, it shall be performed in accordance with the operator's Continuing airworthiness management exposition.

2.19 Release to service documentation.

The release to service has to be performed by the NCAR-145 approved organisation in accordance with its MOE procedures. The contract should, however, specify which support forms have to be used (Operator's technical log, NCAR-145 approved organisation's maintenance visit file, etc...) and the documentation the NCAR-145 approved organization should provide to the operator upon delivery of the aircraft. This may include but may not be limited to:

- Certificate of release to service -*mandatory*-,
- flight test report,

- list of modifications embodied,
- list of repairs,
- list of AD's incorporated,
- maintenance visit report,
- etc...

2.20 Maintenance recording.

The Operator may contract the NCAR-145 approved organisation to retain some of the maintenance records required by CAR-M Subpart C. It should be ensured that every requirement of CAR-M Subpart C is fulfilled by either the operator or the NCAR-145 approved organisation. In such a case, free and quick access to the above mentioned records should be given by the NCAR-145 approved organisation to the operator and its CAAN (in case of two different CAAN involved, see paragraph 2.6 "*CAAN involvement*").

2.21 Exchange of information.

Each time exchange of information between the operator and the NCAR-145 approved organisation is necessary, the contract should specify what information should be provided and when (i.e. on what occasion or at what frequency), how, by whom and to whom it has to be transmitted.

2.22 Meetings.

In order that the CAAN may be satisfied that a good communication system exists between the Operator and the NCAR-145 approved organisation, the terms of the maintenance contract should include the provision for a certain number of meetings to be held between both parties.

2.22.1 Contract review.

Before the contract is applicable, it is very important that the technical personnel of both parties that are involved in the application of the contract meet in order to be sure that every point leads to a common understanding of the duties of both parties.

2.22.2 Work scope planning meeting.

Work scope planning meetings may be organised so that the tasks to be performed may be commonly agreed.

2.22.3 Technical meeting.

Scheduled meetings may be organised in order to review on a regular basis technical matters such as AD's, SB's, future modifications, major defects found during maintenance check, reliability, etc...

2.22.4 Quality meeting.

Quality meetings may be organised in order to examine matters raised by the operator's quality surveillance and to agree upon necessary corrective actions.

2.22.5 Reliability meeting.

When a reliability programme exists, the contract should specify the Operator's and NCAR- 145 approved/accepted Organisation's respective involvement in that programme, including the participation to reliability meetings.

3. Engine maintenance.

This paragraph deals with engine shop maintenance. "On wing" engine maintenance should be covered by paragraph 2 above.

3.1 Scope of work.

The type of engine subject to the maintenance contract must be specified. The type of maintenance to be performed by the NCAR-145 approved organisation should be specified unambiguously.

3.2 Location identified for the performance of maintenance/ Certificates held.

The place(s) where base and line maintenance will be performed should be specified. The certificate held by the maintenance organisation at the place(s) where the maintenance will be performed has to be referred to in the contract.

3.3 Subcontracting.

The maintenance contract should specify under which conditions the NCAR-145 approved organisation may subcontract tasks to a third party (whether this third party is NCAR-145 approved or not). At least the contract should make reference to NCAR-145.75. Additional guidance is provided by the AMC to 145.A.75. In addition the Operator may require the NCAR-145 approved organization to request the operator's approval before subcontracting to a third party. Access should be given to the operator to any information (especially the quality monitoring information) about the NCAR-145 approved organisation's subcontractors involved in the contract. It should however be noted that under operators responsibility both the operator and the operator's CAAN are entitled to be fully informed about subcontracting, although the operator's CAAN will normally only be concerned with aircraft, engine and APU subcontracting.

3.4 Maintenance Programme.

The maintenance programme under which the maintenance has to be performed has to be specified. The operator must have that maintenance Programme approved by CAAN . When the maintenance programme is used by several operators, it is important to remember that it is the responsibility of each operator to have that maintenance programme approved under its own name by CAAN .

3.5 Quality monitoring.

The terms of the contract should include a provision allowing the operator to perform a quality surveillance (including audits) upon the NCAR-145 approved organisation. The maintenance

contract should specify how the results of the Quality surveillance are taken into account by the NCAR-145 approved organisation (See also para.3.21. "*Meetings*").

3.6 CAAN involvement

When the operator's and the NCAR-145 approved organisation's competent authorities are not the same, the operator and the NCAR-145 approved organisation have to ensure together with their competent authority that the respective competent authority's responsibilities are properly defined and that, if necessary, delegations have been established.

3.7 Airworthiness data.

The airworthiness data used for the purpose of this contract as well as the authority responsible for the acceptance/approval must be specified. This may include, but may not be limited to:

- Maintenance Programme;
- AD's;
- major repairs/modification data;
- Engine overhaul manual;
- other?...

3.8 Incoming Conditions.

The contract should specify in which condition the Operator's must send the aircraft to the NCAR- 145 approved organisation. For instance it is important to specify the configuration of the engine, e.g. including the list of the components that remain fitted to the engine before sending it to the NCAR-145 approved organisation. It may also be valuable that a work scope planning meeting be organised so that the tasks to be performed may be commonly agreed (see also paragraph 3.21: "*Meetings*").

3.9 Airworthiness Directives and Service Bulletin/Modifications

The contract should specify what information the operator is responsible to provide to the NCAR-145 approved organisation, such as the due date of the AD, the selected means of compliance, the decision to embody Service Bulletins (SB's) or modification, etc... In addition the type of information the operator will need in return to complete the control of ADs and modification status should be specified.

3.10 Hours & Cycles control.

Hours and cycles control is the responsibility of the operator, but there may be cases where the NCAR-145 approved organisation must be in receipt of the current flight hours and cycles on a regular basis so that it may update the records for its own planning functions (see also paragraph 3.20: "*Exchange of information*").

3.11 Life Limited Parts.

Life Limited Parts control is the responsibility of the Operator.

The NCAR-145 approved organisation will have to provide the operator with all the necessary information about the LLP removal/installation so that the Operator may update its records (see also paragraph 3.20 *"Exchange of information"*).

3.12 Supply of parts.

The contract should specify whether a particular type of material or component comes from the operator's or the NCAR-145 approved organisation's store, which type of component is pooled, etc...Attention should be paid on the fact that it is the NCAR-145 competence and responsibility to be in any case satisfied that the component in question meets the approved data/standard and to ensure that the aircraft component is in a satisfactory condition for fitment. In other words, there is definitely no way for a NCAR-145 organisation to accept whatever he receives from the operator. For the certification of parts, additional guidance is provided by 145.A.42.

3.13 Scheduled maintenance.

For planning scheduled maintenance checks, the support documentation to be given to the NCAR- 145 approved organisation should be specified. This may include, but may not be limited to:

- applicable work package, including job cards;
- scheduled component removal list;
- modifications to be incorporated;
- etc...

When the NCAR-145 approved organisation determines, for any reason, to defer a maintenance task, it has to be formally agreed by the Operator. If the deferment goes beyond an approved limit, refer to paragraph 3.16: "*Deviation from the maintenance Schedule*". This should be addressed, where applicable, in the maintenance contract.

3.14 Unscheduled maintenance/Defect rectification.

The contract should specify to which level the NCAR-145 approved organisation may rectify a defect without reference to the operator. As a minimum, the approval and incorporation of major repairs should be addressed. The deferment of any defect rectification shall be submitted to the operator and, if applicable, to its competent authority.

3.15 Deferred tasks.

See paragraphs 3.13 and 3.14 above and AMC to 145.A.50 (e).

3.16 Deviation from the Maintenance Schedule.

Deviations have to be requested by the operator to its CAAN or granted by the Operator in accordance with a procedure acceptable to its competent authority. The contract should specify the support the NCAR-145 approved organisation may provide to the operator in order to substantiate the deviation request.

3.17 Test bench.

The contract should specify the acceptability criterion and whether a representative of the operator should witness an engine undergoing test.

3.18 Release to service documentation.

The contract should specify the documentation the NCAR-145 approved organisation should provide to the operator upon delivery of the aircraft/engine. This may include but may not be limited to:

- EASA Form One *-mandatory-*,
- test bench report,
- list of modifications embodied,
- list of repairs,
- list of AD's performed,
- etc...

3.19 Maintenance recording.

The Operator may contract the NCAR-145 approved organisation to retain some of the maintenance records required by NCAR-M Subpart C. It should be ensured that every requirement of CAR-M Subpart C is fulfilled by either the operator or the NCAR-145 approved organisation. In such a case, free and quick access to the above mentioned records should be given by the NCAR- 145 approved organisation to the operator and its CAAN (in case of two different CAAN involved, see paragraph 3.6 "*CAAN involvement*").

3.20 Exchange of information.

Each time exchange of information between the Operator and the NCAR-145 approved organisation is necessary, the contract should specify what information should be provided and when (i.e. on what occasion or at what frequency), how, by whom and to whom it has to be transmitted.

3.21 Meetings.

In order that the CAAN may be satisfied that a good communication system exists between the Operator and the NCAR-145 approved organisation, the terms of the maintenance contract should include the provision for a certain number of meetings to be held between both parties.

3.21.1 Contract review.

Before the contract is applicable, it is very important that the technical personnel of both parties that are involved in the application of the contract meet in order to be sure that every point leads to a common understanding of the duties of both parties.

3.21.2 Workscope planning meeting.

Workscope planning meetings may be organised so that the tasks to be performed may be commonly agreed.

3.21.3 Technical meeting

Scheduled meetings may be organised in order to review on a regular basis technical matters such as AD's, SB's, future modifications, major defects found during shop visit, reliability, etc...

3.21.4 Quality meeting

Quality meetings may be organised in order to examine matters raised by the operator's quality surveillance and to agree upon necessary corrective actions.

3.21.5 Reliability meeting.

When a reliability programme exists, the contract should specify the Operator's and NCAR- 145 approved/accepted Organisation's respective involvement in that programme, including the participation to reliability meetings.

4. Aircraft line maintenance.

This paragraph applies to maintenance contract that includes line maintenance but excludes base maintenance activities.

4.1 Scope of work.

The type of aircraft subject to the maintenance contract must be specified. It should include the aircraft's registration numbers. The extent of maintenance to be performed by the NCAR-145 approved organisation should be specified unambiguously.

4.2 Location identified for the performance of maintenance/ Certificates held.

The place(s) where line maintenance will be performed should be specified. The certificate held by the maintenance organisation at the place(s) where the maintenance will be performed has to be referred to in the contract.

4.3 Subcontracting.

The maintenance contract should specify under which conditions the NCAR-145 approved organisation may subcontract tasks to a third party (whether this third party is NCAR-145 approved or not). At least the contract should make reference to NCAR-145.75. Additional guidance is provided by the AMC to 145.A.75. In addition the Operator may require the NCAR-145 approved organisation to request the operator's approval before subcontracting to a third party. Access should be given to the operator to any information (especially the quality monitoring information) about the NCAR-145 approved organisation's subcontractors involved in the contract. It should however be noted that under operators responsibility both the operator and the operator's CAAN are entitled to be fully informed about subcontracting, although the operator's CAAN will normally only be concerned with aircraft, engine and APU subcontracting.

4.4 Quality monitoring.

The fact that the operator's contractor is appropriately approved in accordance with NCAR-145, does not preclude the Operator from performing a quality surveillance (including audits) upon the NCAR-145 approved organisation.

4.5 Airworthiness data.

The airworthiness data used for the purpose of this contract as well as the authority responsible for the acceptance/approval must be specified. This may include, but may not be limited to:-

- aircraft Maintenance Manual;
- aircraft IPC;
- Wiring diagrams;
- Trouble shooting manual;
- Minimum Equipment List (normally on board the aircraft);
- Operations Manual;
- Flight Manual.

4.6 Supply of parts.

The contract should specify whether a particular type of material or component is supplied by the operator or the NCAR-145 approved organisation. Attention should be paid on the fact that it is the NCAR-145 competence and responsibility to be in any case satisfied that the component in question meets the approved data/standard and to ensure that the aircraft component is in a satisfactory condition for fitment. In other words, there is definitely no way for a NCAR-145 organisation to accept whatever he receives from the operator. Storage conditions should also be addressed.

4.7 Pooled parts.

The contract should specify how the subject of pooled parts at line stations should be addressed.

4.8 Unscheduled maintenance/Defect rectification.

The contract should specify to which level the NCAR-145 approved organisation may rectify a defect without reference to the operator, and what action should be taken in case the defect rectification may not be performed by the NCAR-145 approved organisation.

4.9 Deferred tasks.

The use of the operator's MEL and the relation with the operator in case of a defect that cannot be rectified at the line station should be addressed.

4.10 Release to service.

The release to service has to be performed by the NCAR-145 approved organisation in accordance with its MOE procedures. The contract should however specify which support forms have to be used (operator's technical log, etc...).

4.11 Exchange of information.

Each time exchange of information between the operator and NCAR-145 approved organization is necessary, the contract should specify what information should be provided and when, how, by whom and to whom it has to be transmitted.

4.12 Meetings.

Before the contract is applicable, it may be beneficial that the technical personnel of both parties that are involved in the application of the contract meet in order to be sure that every point leads to a common understanding of both parties' duties.