

STATE OF LIBYA
GOVERNMENT OF LIBYA
MINISTRY OF TRANSPORT
CIVIL AVIATION AUTHORITY



دولة ليبيا
الحكومة الليبية
وزارة المواصلات
مصلحة الطيران المدني

LIBYA CIVIL AVIATION REGULATIONS – CONTINUING AIRWORTHINESS

AMC (Acceptable Means of Compliance) & GM (Guidance Material)

Part M Continuing airworthiness requirements

Initial Issue – August 2016

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INTRODUCTION

1. The LyCAA has adopted associated compliance or interpretative and guidance materials to all Continuing Airworthiness regulations which establishes technical requirements and administrative procedures to ensure the continuing airworthiness of aircraft and aeronautical products, parts and appliances, the approval of organisations and personnel involved in these tasks. The documents are based on EASA Acceptable Means of Compliance (AMCs) and Guidance Materials (GMs)
2. Unless specifically stated otherwise, clarification will be based on this material or other EASA documentation, therefore, reference to EASA in this document may still be used for clarification and guidance.
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Signed on 30 August 2016, by:



Capt. Nasereddin Shaebelain
Director General

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SECTION A TECHNICAL REQUIREMENTS

SUBPART A — GENERAL

To be developed as appropriate.

SUBPART B — ACCOUNTABILITY

AMC M.A.201(e) Responsibilities

The limited contract for the development and, when applicable, processing of the approval of the aircraft maintenance programme should cover the responsibilities related to M.A.302(d), M.A.302(e) and M.A.302(g).

GM M.A.201(e) Aircraft maintenance programme

If an owner decides not to make a contract in accordance with M.A.201(e), the owner is fully responsible for the proper accomplishment of the corresponding tasks. As a consequence, it is recommended that the owner properly self-assesses his/her own competence to accomplish them or otherwise seeks the proper expertise.

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 LYC AR.145 maintenance organisation approval. Nevertheless, inspections required to detect, and when necessary eliminate de-icing and/or anti-icing fluid residues are considered maintenance. Such inspections may only be carried out by suitably authorised personnel.
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), airworthiness limitations contained, fuel tank system airworthiness limitations including Critical Design Configuration Control Limitations (CDCCL) modifications, major repairs, operational equipment) and required and performed maintenance. The 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 LYCAR.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 LYCAR.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 LYCAR.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 air worthiness 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 exercised through the operator's M.A. Subpart G. approval. The contracts should be acceptable to the LYCAA.

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. LYCAR Part-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 LYCAA.
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 sub -contracted 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 organisation the operator should demonstrate that adequate co-ordination controls are in place and that the individual responsibilities are clearly defined in related contracts.
9. Contracts should not authorise 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 LYCAA monitoring of the sub-contracted continuing airworthiness management tasks will be closed to the satisfaction of the LYCAA. 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 LYCAA. Failure to do so may invalidate the LYCAA 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 LYCAA.

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 LYCAR.145 to carry out all maintenance of the aircraft and components;
 - (b) an operator to be approved in accordance with LYCAR.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 LYCAR.145.
2. An operator or prospective operator may apply for any one of these options but it will be for the LYCAA to determine which option may be accepted in each particular case.
 - 2.1. To make this determination the LYCAA 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 – the LYCAA 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 the LYCAA 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 the LYCAA 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 the LYCAA 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 LYCAA will require an operator to enter into a contract with an appropriately approved LYCAR.145 organisation except in those cases where the LYCAA 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 which endangers flight safety 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 organisation's 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.

SUBPART 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. and an assessment to confirm that, as the result of meteorological conditions and de-icing/anti-icing fluids having been previously applied on it, there are no fluid residues that could endanger flight safety. Alternatively to this pre-flight assessment, when the type of aircraft and nature of operations allow for it, the build-up of residues may be controlled through scheduled maintenance inspections/cleanings identified in the approved maintenance programme.
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 the LYCAA 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 the LYCAA.

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 CAMO 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 are 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: analyze 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 CAMO 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 the LYCAA.

AMC M.A.301(4) Continuing airworthiness tasks

The operator or the contracted CAMO 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 LYCAA includes TC related requirements such as: certification maintenance requirements (CMR), certification life limited parts, airworthiness limitations fuel tank system airworthiness limitations including Critical Design Configuration Control Limitations (CDCCL) etc.

AMC M.A.301(6) Continuing airworthiness tasks

An operator or a contracted CAMO 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 that is produced for the aircraft and its components by an approved design organisation, the manufacturer, the authority responsible for the type design and the LYCAA.

AMC M.A.302 Aircraft 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 airworthiness instructions of the state of design 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.
5. Repetitive maintenance tasks derived from modifications and repairs should be incorporated into the approved maintenance programme.
6. Appendix I to AMC M.A.302 provides detailed information on the contents of an approved aircraft maintenance programme.
7. The approved aircraft maintenance programme should reflect applicable mandatory regulatory requirements addressed in documents issued by the TC holder to comply with LYCAR 21.

AMC M.A.302(a) Aircraft Maintenance Programme

A maintenance programme may indicate that it applies to several aircraft registrations as long as the maintenance programme clearly identifies the effectivity of the tasks and procedures that are not applicable to all of the listed registrations.

AMC M.A.302(d) Aircraft maintenance programme

1. An aircraft 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 aircraft maintenance programme should also take into account any maintenance data containing information on scheduling for components.
2. Instructions issued by the LYCAA 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. These instructions may be issued by the LYCAA in the following cases:
 - in the absence of specific recommendations of the Type Certificate Holder.
 - to provide alternate instructions to those described in the subparagraph 1 above, with the objective of providing flexibility to the operator.
3. Where an aircraft type has been subjected to the MRB report process, an operator should normally develop the initial 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.
7. Alternate and/or additional instructions to those defined in paragraphs M.A.302(d)(i) and (ii), proposed by the owner or the operator, may include but are not limited to the following:

- Escalation of the interval for certain tasks based on reliability data or other supporting information. Appendix I to AMC M.A.302 and M.B.301(b) recommends that the maintenance programme contains the corresponding escalation procedures. The escalation of these tasks is directly approved by the LYCAA, except in the case of ALIs (Airworthiness Limitations).
- More restrictive intervals than those proposed by the TC holder as a result of the reliability data or because of a more stringent operational environment.
- Additional tasks at the discretion of the operator

AMC M.A 302(f) Aircraft maintenance programme

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 I to AMC M.A.302 gives further guidance.

AMC to LYCAR M.303 Applicable Airworthiness Directives

The applicable airworthiness directives are:

1. Airworthiness Directives issued by LYCAA.
2. Airworthiness Directives issued by the issuing authority of the Type Certificate accepted by the LYCAA.

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 design organisation approved by the state of design and finally LYCAA 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(d)(4) and M.A.305(h) Aircraft continuing airworthiness record system

The term 'service life-limited components' embraces:

- (i) components subject to a certified life limit after which the components should be retired, and
- (ii) components subject to a service life limit after which the components should undergo maintenance to restore their serviceability.

The current status of service life-limited aircraft components should indicate:

- (i) for components subject to a certified life limit: 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;
- (ii) for components subject to a service life limit: the component service life limit, the hours, cycles or calendar time since the component has been restored back to their service life and the remaining service (hours, cycles, calendar time) life before the components need to undergo maintenance.

Any action that alters the components' life limit (certified or service) or changes the parameter of the life limit (certified or service) should be recorded.

When the determination of the remaining life requires knowledge of the different types of aircraft/engine on which the component has previously been installed, the status of all service-life limited aircraft components should additionally include a full installation history indicating the number of hours, cycles or calendar time relevant to each installation on these different types of aircraft/engine. The indication of the type of aircraft/engine should be sufficiently detailed with regard to the required determination of remaining life.

Recommendations from the type certificate holder on the procedures to record the remaining life may be considered.

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 transferring the records to any other person who becomes the owner/operator of the aircraft.

Keeping continuing airworthiness records in a form acceptable to the LYCAA 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 unauthorized personnel to alter the database.

Continuing airworthiness records should be stored in a safe way with regard to damage, alteration and theft. 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 the LYCAA for acceptance. The LYCAA may require the performance of additional maintenance if not satisfied with the reconstructed records.

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 crew 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 the LYCAA.*

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 the LYCAA.
- (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 check 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 and any other information required by the operator's procedures in order to allow the assessment on whether inspections for and/or elimination of de-icing/anti-icing fluid residues that could endanger flight safety are required.
- (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;
- 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 so that one copy of each page may remain on the aircraft and one copy may be retained on the ground until completion of the flight to which it relates.

NOTE 3: Section 3 layout 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.
- (iii) 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 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 the LYCAA.

In case of a computer system, it should contain programme safeguards against the ability of unauthorized 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 the LYCAA 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.

SUBPART 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 LYCAA Publications and associated AMC's, together with the maintenance related guidance material;
 - (b) all applicable maintenance requirements and notices such as LYCAA standards and specifications that have not been superseded by a requirement, procedure or directive;
 - (c) all applicable ADs;
 - (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. The workcard/worksheet system may take the form of, but is not limited to, the following:
 - a format where the engineer writes the defect and the maintenance action taken together with information of the maintenance data used, including its revision status, authorised personnel together with information of the maintenance data used, including its revision status,
 - for maintenance checks, the checklist issued by the manufacturer (i.e., 100H checklist, Revision 5, Items 1 through 95)
5. 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. Reserved
2. Reserved.
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 the organisation responsible for the type design maintenance personnel should refer to the relevant aircraft airworthiness standards and procedures published or used as guidance by the LYCAA. The maintenance standards used should contain methods, techniques and practices acceptable to the LYCAA for the maintenance of aircraft and its components.

4. Independent inspections.
 - 4.1. The manufacturer's 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 organisation 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 organisation 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. Reserved
 - 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 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.

In this context officially recognized standard means those standards established or published by an official body whether having legal personality or not, which are widely recognized by the air transport sector as constituting good practice.

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 the LYCAA.

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

SUBPART 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 LYCAA Form 1 (see also LYCAR.PART M Appendix II) is to release components after manufacture and to release maintenance work carried out on such components under the approval of LYCAA and to allow components removed from one aircraft/component to be fitted to another aircraft/ component.
5. For the purpose of LYCAR PART-M, a document equivalent to an LYCAA Form One may be:
 - (a) a release document issued by an organisation under the terms of a bilateral agreement signed by the LYCAA; or
 - (b) EASA form One issued by an EASA 145 organization; or
 - (c) a JAA Form One issued prior to 28 November 2004 by a JAR 145 organisation; or
 - (d) FAA form 8130-3; or
 - (e) Transport Canada form 24-0078 or TCCA form ONE; or
 - (f) for new parts, any authorized release certificate issued by type certificate holder under authority of the state of design; or
 - (g) any equivalent certification acceptable to LYCAA.
 - (h) a release to service certificate or authorised release certificates issued before date of entry into force of the LYCAR.Part-M by maintenance organisation approved by LYCAA shall be deemed equivalent to those required by points LYCAR-Part-M 801 and LYCAR.Part-M 802 respectively .
6. Any item in storage without an LYCAA Form 1 or equivalent cannot be installed on aircraft registered in a Libya unless an LYCAA Form 1 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 LYCAA Form 1 identifies the airworthiness status of an aircraft component. Block 12 'Remarks' on the LYCAA Form 1 in some cases contains vital airworthiness related information (see also LYCAR.Part-M Appendix II) which may need appropriate and necessary actions.
2. The fitment of replacement components should only take place when the person referred to in M.A.801 or the LYCAR.Part-M. Subpart F or LYCAR.145 maintenance organisation is satisfied that such components meet required standards in respect of manufacture or maintenance, as appropriate.

3. The person referred to under M.A.801 or LYCAR.Part-M. Subpart F or LYCAR.145 approved maintenance organisation 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/STC holder or manufacturer's parts catalogue or other approved data (i.e. Service Bulletin). Care should also be taken 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:
 - (a) Parts manufactured in complete compliance with an established industry, , LYCAA 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...
 - (b) Reserved.
2. To designate a part as a standard part the TC holder may issue a standard parts manual accepted by the 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. An LYCAA 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. LYCAA Form 1 or equivalent should not be issued for such material and therefore none should be expected. The material specification is normally identified in the (S)TC holder's data except in the case where the LYCAA has agreed otherwise.
6. Items purchased in batches (fasteners etc.) should be supplied in a package. The packaging should state the applicable specification/standard, P/N, batch number and the quantity of the items. The documentation accompanying the material should contain the applicable specification/standard, P/N, batch number, supplied quantity, and the manufacturing sources. If the material is acquired from different batches, acceptance documentation for each batch should be supplied.

AMC M.A.502 Component maintenance

Component removal from and installation on an aircraft is considered to be aircraft maintenance and not component maintenance. As a consequence, M.A.502 requirements do not apply to this case

AMC M.A.502(b) and (c) Component maintenance

M.A.502(b) and (c) allow the performance of certain component maintenance, in accordance with component maintenance data, to maintenance organisations not holding the corresponding B/C rating and to independent certifying staff, subject to the agreement of LYCAA.

This should only be permitted by the LYCAA in the case of simple component maintenance, where the LYCAA is satisfied that the certifying staff are appropriately qualified and the proper tooling and facilities are available. It is important to note that for more complex component maintenance, special qualifications may be required and it is not enough with holding a LYCAR.66 aircraft engineer maintenance licence

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) and M.A.801(c) Section A Subpart F/Part 145 approved maintenance organisation 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. Reserved

'A secure location under the control of an approved maintenance organisation' means a secure location for which security is the responsibility of the approved maintenance organisation. This may include facilities established by the approved maintenance organisation at locations different from the main maintenance facilities. These locations should be identified in the relevant procedures of the approved maintenance organisation.

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

1. The following types of components should typically be classified as unsalvageable:
 - (c) components with non-repairable defects, whether visible or not to the naked eye;
 - (d) components that do not meet design specifications, and cannot be brought into conformity with such specifications;
 - (e) components subjected to unacceptable modification or rework that is irreversible;
 - (f) certified life-limited parts that have reached or exceeded their certified life limits, or have missing or incomplete records;
 - (g) components that cannot be returned to airworthy condition due to exposure to extreme forces, heat or adverse environment;
 - (h) components for which conformity with an applicable airworthiness directive cannot be accomplished;
 - (i) components for which continuing airworthiness records and/or traceability to the manufacturer cannot 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 the LYCAA 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 organisation that is known to return unsalvageable components back into the aviation supply system, due to the potential safety threat.*

SUBPART F — MAINTENANCE ORGANISATION

AMC M.A.602 Application

An application should be made on an LYCAA Form 2 or equivalent acceptable to the LYCAA.

The LYCAA Form 2 is valid for the application for M.A. Subpart F, LYCAR.145 and M.A. Subpart G organisations. Organisations applying for several approvals may do so by using a single LYCAA Form 2.

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

The following table identifies the ATA Specification 2200 chapter for the category C component rating. If the maintenance manual (or equivalent document) does not follow the ATA Chapters, the corresponding subjects still apply to the applicable C rating.

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 - 34
	C4 Doors - Hatches	52
	C5 Electrical Power & Lights	24 – 33 – 85
	C6 Equipment	25 - 38 - 44 - 45 - 50
	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	28 - 47
	C10 Helicopters - Rotors	62 - 64 - 66 - 67
	C11 Helicopter - Trans	63 - 65
	C12 Hydraulic Power	29
	C13 Indicating/Recording Systems	31 - 42 - 46
	C14 Landing Gear	32
	C15 Oxygen	35
	C16 Propellers	61
	C17 Pneumatic & Vacuum	36 - 37
	C18 Protection ice/rain/fire	26 - 30
	C19 Windows	56
	C20 Structural	53 - 54 - 57.10 - 57.20 - 57.30
	C21 Water Ballast	41
	C22 Propulsion Augmentation	84

AMC M.A.604 Maintenance organisation manual

1. 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 Part-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.

Depending on the scope of work of the maintenance organisation, it may not be necessary to have a hangar available. For example, an organisation maintaining LA2 aircraft (when not performing major repairs) may perform the work in alternative suitable facilities (and possibly at remote locations) as agreed by the LYCAA.

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 minimize 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 minimize 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 unauthorized 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, the LYCAA 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. 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 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 LYCAA 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 LYCAA 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) LYCAR.Part-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. This knowledge may be demonstrated by documented evidence or by an assessment performed by the LYCAA . This assessment should be recorded.

Training courses should be as a minimum at a level equivalent to LYCAR.66 Appendix III Level 1 General Familiarization, and could be imparted by a LYCAR PART -147 organisation, by the manufacturer, or by any other organisation accepted by the LYCAA.

- 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 organisation 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 European Standard EN 4179 dependent upon the non-destructive testing function to be carried out.
3. Notwithstanding the fact that level 3 personnel may be qualified via EN 4179 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 in EN 4179 to a national aerospace NDT board, all examinations should be conducted by personnel or organisations under the general control of such a board. In the absence of a national aerospace NDT board, examinations should be conducted by personnel or organisations under the general control of the NDT board of a ICAO State designated by LYCAA.
5. Particular non-destructive test means any one or more of the following: 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 EN 4179. 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 non-destructive 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 non-destructive testing by M.A. Subpart F are not listed in Appendix IV to LYCAR PART -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 Part-M should qualify for such non-destructive test in accordance with EN 4179.
11. In this context officially recognized standard means those standards established or published by an official body whether having legal personality or not, which are widely recognised by the air transport sector as constituting good practice.

AMC M.A.606(h)(2) Personnel requirements

1. For the issue of a limited certification authorisation the commander should hold either a valid air transport pilot license (ATPL), or commercial pilots license (CPL). In addition, the limited certification authorisation is subject to the maintenance organisation manual containing procedures to address the following:
 - (a) Completion of adequate airworthiness regulation training.
 - (b) Completion of adequate task training for the specific task on the aircraft. The task training should be of sufficient duration to ensure that the individual has a thorough understanding of the task to be completed and should involve training in the use of associated maintenance data.
 - (c) Completion of the procedural training.

The above procedures should be specified in the maintenance organisation manual and be accepted by LYCAA.

2. Typical tasks that may be certified and/or carried out by the commander holding an ATPL or CPL are minor maintenance or simple checks included in the following list:
 - (a) Replacement of internal lights, filaments and flash tubes.
 - (b) Closing of cowlings and re-fitment of quick access inspection panels.
 - (c) Role changes, e.g., stretcher fit, dual controls, FLIR, doors, photographic equipment etc.
 - (d) Inspection for and removal of de-icing/anti-icing fluid residues, including removal/closure of panels, cowls or covers that are easily accessible but not requiring the use of special tools.
 - (e) Any check/replacement involving simple techniques consistent with this AMC and as agreed by LYCAA.
3. The authorisation should have a finite life of twelve months subject to satisfactory recurrent training on the applicable aircraft type.

AMC M.A.607 Certifying staff and airworthiness review 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.

AMC M.A.607(c) Certifying staff and airworthiness review 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 and personal authorisation reference;
 - (j) date of first issue of the authorisation;
 - (k) if appropriate - expiry date of the authorisation.
2. The following minimum information, as applicable, should be kept on record in respect of each airworthiness review person:
 - (a) name;
 - (b) date of birth;
 - (c) certifying staff authorisation;
 - (d) experience as certifying staff on LA1 aircraft;
 - (e) (qualifications relevant to the approval (knowledge of relevant parts of Part -M and knowledge of the relevant airworthiness review procedures);
 - (f) scope of the airworthiness review authorisation and personal authorisation reference;
 - (g) date of the first issue of the airworthiness review authorisation; and
 - (h) if appropriate, expiry date of the airworthiness review authorisation.
3. Persons authorised to access the system should be maintained at a minimum to ensure that records cannot be altered in an unauthorized manner or that such confidential records become accessible to unauthorized persons.
4. The LYCAA should be granted access to the records upon request.

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

1. Once the applicant for LYCAR.Part-M Subpart F approval has determined the intended scope of approval for consideration by LYCAA, 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 organization 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 LYCAR.Part-M Subpart F organisation can show by results that a different time period is appropriate in a particular case.
3. In this context officially recognized standard means those standards established or published by an official body whether having legal personality or not, which are widely recognized by the air transport sector as constituting good practice.

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.610 Maintenance work orders

'A written work order' may take the form of, but not limited to, the following:

- A formal document or form specifying the work to be carried out. This form may be provided by the continuing airworthiness management organisation managing the aircraft, or by the maintenance organisation undertaking the work, or by the owner/operator himself;
- An entry in the aircraft log book specifying the defect that needs to be corrected.

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

1. An aircraft component which has been maintained off the aircraft requires the issuance of a CRS for such maintenance and another CRS in regard to being installed properly on the aircraft when such action occurs.
2. In the case of components in storage prior to LYCAR.145, LYCAR.Part-M and not released on an authorised release certificate (LYCAA Form 1 or equivalent) in accordance with M.A.501(a) or removed serviceable from a serviceable aircraft which have been withdrawn from service, this paragraph provides additional guidance regarding the conditions under which an LYCAA Form 1 may be issued.
 - 2.1. LYCAA Form 1 may be issued for an aircraft component which has been:
 - Maintained before Part-145, or Part-M became effective .
 - 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 LYCAR.Part-M Subpart F maintenance organisation may issue an LYCAA Form 1 as detailed in this AMC subparagraph 2.5 to 2.9, as appropriate, in accordance with the procedures detailed in the manual as approved by LYCAA. The appropriately rated LYCAR.Part-M 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 an LYCAA Form 1 under this paragraph.
 - 2.3. For the purposes of this paragraph 2 only, 'appropriately rated' means an organisation with an approval class rating for the type of component or for the product in which it may be installed.

- 2.4. An LYCAA Form 1 issued in accordance with this paragraph 2 should be issued by signing in block 14b and stating 'Inspected/Tested' in block 11. In addition, block 12 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 ADs, repairs and modifications known to have been incorporated. If no ADs 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 12. The maintenance history record and acceptance test report or statement, if applicable, should be attached to LYCAA Form 1.
- 2.5. New/unused aircraft components
- 2.5.1. Any unused aircraft component in storage without an LYCAA Form 1 that was manufactured by an OEM acceptable to LYCAA at the time may be issued an LYCAA Form 1 by an appropriately rated maintenance organisation approved under LYCAR.Part-M Subpart F. The LYCAA Form 1 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 LYCAR.Part-M Subpart F and not a production release.
- (a) An acceptance test report or statement should be available for all used and unused aircraft components that are subject 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 ADs, repairs and modifications and inspected/tested in accordance with the maintenance data to establish satisfactory condition and, if relevant, all seals, lubricants and life-limited parts replaced. Upon satisfactory completion after reassembly, an LYCAA Form 1 may be issued stating what was carried out and the reference to the maintenance data included.
- 2.6. Used aircraft components removed from a serviceable aircraft.
- 2.6.1. Serviceable aircraft components removed from a Libyan registered aircraft may be issued an LYCAA 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 or related system.

- (c) The aircraft component should be inspected for satisfactory condition including in particular damage, corrosion or leakage and compliance with any additional maintenance data.
 - (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 an LYCAA 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 affect 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, an LYCAA 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-Libyan registered aircraft may only be issued an LYCAA 1 if the components are leased or loaned from the maintenance organisation approved under LYCAR.Part-M Subpart F who retains control of the airworthiness status of the components. An LYCAA 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 Libyan registered aircraft withdrawn from service may be issued an LYCAA Form 1 by a maintenance organisation approved under LYCAR.Part-M Subpart F subject to compliance with this subparagraph.
- (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 LYCAR.Part-M Subpart F, employing procedures approved by the LYCAA.
 - (b) To be eligible for installation, components removed from such aircraft may be issued with an LYCAA 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 LYCAR.Part-M 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 LYCAR.Part-M 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 the manufacturer's recommendations.
- 2.8. Used aircraft components maintained by organisations not approved in accordance with LYCAR.Part-M Subpart F LYCAR.145.
- For used components maintained by a maintenance organisation not approved under LYCAR.Part-M Subpart F or LYCAR.145, due care should be taken before acceptance of such components. In such cases an appropriately rated maintenance organisation approved under LYCAR.Part-M Subpart F should establish satisfactory conditions by:
- dismantling the component for sufficient inspection in accordance with the appropriate maintenance data,
 - (a) replacing of all service life-limited components when no satisfactory evidence of life used is available and/or the components are in an unsatisfactory condition,
 - (b) reassembling and testing as necessary the component,
 - (c) 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 an LYCAA 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 12.

- 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. In such a case, a clear statement of limitation should be endorsed in block.
- 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. It should only be issued by organisations approved by the LYCAA within the scope of the approval.

AMC M.A.614(a) Maintenance and airworthiness review records

- 1. Properly executed and retained records provide owners, operators and maintenance personnel with information essential in controlling unscheduled and scheduled maintenance, and troubleshooting to eliminate the need for re-inspection and rework to establish airworthiness.
- 2. 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.

3. 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.
4. Paper systems should use robust material which can withstand normal handling and filing.
5. 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 unauthorized personnel to alter the database.

AMC M.A.614(c) Maintenance and airworthiness review 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.

GM M.A.615 Privileges of the organisation

M.A.615 states that the organisation shall only maintain an aircraft or component for which it is approved when all the necessary facilities, equipment, tooling, material, maintenance data, and certifying staff are available.

This provision is intended to cover the situation where the larger organisation may temporarily not hold all the necessary tools, equipment, etc. for an aircraft type or variant specified in the organisation's approval. This paragraph means that the LYCAA need not amend the approval to delete the aircraft type or variants on the basis that it is a temporary situation and there is a commitment from the organisation to re-acquire tools, equipment, etc. before maintenance on the type may recommence.

GM M.A.615(a) Privileges of the organisation

M.A.615(a) applies also to facilities which may not be individually approved by the LYCAA.

AMC M.A.615(b) Privileges of the organisation

M.A.615(b) refers to work carried out by another organisation which is not appropriately approved under LYCAR.Part-M Subpart F or Part-145 to carry out such tasks.

The intent is to permit the acceptance of specialised maintenance services, such as, but not limited to, non-destructive testing, surface treatment, heat-treatment, welding, fabrication of specified parts for minor repairs and modifications, etc., without the need of Subpart F approval for those tasks.

The requirement that the organisation performing the specialised services must be 'appropriately qualified' means that it should meet an officially recognised standard or, otherwise, it should be acceptable to the LYCAA (through the approval of the Maintenance Organisation Manual).

'Under the control of the Subpart F organisation' means that the Subpart F organisation should investigate the capability of the subcontracted organisation (including qualifications, facilities, equipment and materials) and ensure that such organisation:

- Receives appropriate maintenance instructions and maintenance data for the task to be performed.
- Properly records the maintenance performed in the Subpart F airworthiness records.
- Notifies the Subpart F organisation for any deviation or non-conformity, which has arisen during such maintenance.

The CRS may be issued either at the subcontractors or at the organisation facility by authorised certifying staff, and always under the LYCAR.Part-M Subpart F organisation reference. Such

staff would normally come from the LYCAR.Part-M Subpart F organisation but may otherwise be a person from the subcontractor who meets the M.A. Subpart F organisation certifying staff standard which itself is approved by the LYCAA via the Maintenance Organisation Manual.

Subcontracted specialised services organisations should be listed in the Maintenance Organisation Manual of the Subpart F organisation together with their qualifications, and the associated control procedures.

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 ;
 - 2.2. the frequency of the reviews;
 - 2.3. the scope and content of the reviews;
 - 2.4. the persons accomplishing the reviews;
 - 2.5. the procedure for planning, performing and processing review findings; and,
 - 2.6. the procedure for ensuring corrective actions are carried out in the appropriate time frame.
3. The organisation quality system as specified in LYCAR Part -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 to AMC M.A.616 should be used to manage the organisational reviews.

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

The LYCAA should be given adequate notification of any proposed changes in order to enable the maintenance organisation to remain approved if agreed by the LYCAA 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.702 Application

An application should be made on a LYCAA Form 2. The LYCAA Form 2 is valid for the application for LYCAR.Part-M Subpart F, LYCAR.145 and M.A. Subpart G organisations. Organisations applying for several approvals may do so using a single LYCAA Form 2.

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 CAMO. Compliance with its contents will assure compliance with Part-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 other than commercial air transport operators)
 - Part 4 Airworthiness review procedures (if applicable)
3. Where a CAMO is also approved to another LYCAR Part, the exposition or manual required by the other LYCAR Part may form the basis of the continuing airworthiness management exposition in a combined document. Example for a combined LYCAR.145 and LYCAR.Part-M Subpart G organisation:

LYCAR.145 Exposition (see equivalent paragraphs in AMC 145.A.70(a))

Part 1 Management

Part 2 Maintenance procedures

Part L2 Additional line maintenance procedures

Part 3 Quality system and/or organisational review (as applicable)

Part 4 Contracts with owners/operators

Part 5 Appendices (sample of documents)

Part 7 FAA supplement (if applicable)

Part 8 TCCA supplement (if applicable)

Part 3 should also cover the functions specified by M.A.712 quality system.

Part 4 should also cover contracted maintenance (for operators) – Management of maintenance (liaison with maintenance organisations in the case of other than commercial air transport operators)

Additional parts should be introduced covering the following (*see equivalent paragraphs in Appendix V to AMC M.A.704, which may have a different numbering system*):

Part 0 General organisation

Part 6 Continuing airworthiness management procedures

Part 9 Airworthiness review procedures (if applicable)

Example for a combined M.A. Subpart F and M.A. Subpart G organisation:

M.A. Subpart F Maintenance Organisation Manual

(see equivalent paragraphs in Appendix IV to AMC M.A.604, which have a different numbering system)

Part 1 General

Part 2 Description

Part 3 General Procedures

Part 4 Working Procedures. This Part contains, among other things, procedures for Organisational Reviews.

Part 5 Appendixes

Part 4 should also cover the functions specified by M.A.712 quality system (or organisation review, as applicable).

Additional parts should be introduced covering the following (see equivalent paragraphs in Appendix V to AMC M.A.704, which may have a different numbering system): Part 0 General organisation

Part 6 Continuing airworthiness management procedures

Part 7 Airworthiness review procedures (if applicable)

4. Personnel should be familiar with those parts of the exposition that are relevant to their tasks.
5. The CAMO should specify in the exposition who is responsible for the amendment of the document.
6. Unless otherwise agreed by the LYCAA, 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 the LYCAA. The LYCAA 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 the LYCAA.
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 the LYCAA in a form acceptable to the LYCAA. 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 CAMO, signed by the accountable manager confirming that the continuing airworthiness management exposition and any associated manuals define the organisation compliance with Part-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 the LYCAA LYCAR 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 operator'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 the LYCAA will approve this organisation whilst the LYCAA is satisfied that the procedures are being followed and the work standard is maintained. It is understood that the LYCAA reserves the right to suspend, vary or revoke the LYCAR.Part-M Subpart G continuing airworthiness management approval of the organisation or the air operators certificate, as applicable, if the LYCAA * 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 LYCAA

Failure to carry out this action invalidates the M.A. Subpart G continuing airworthiness management approval or the air operators certificate.

11. The exposition should contain information as applicable, on how the continuing airworthiness management organisation complies with CDCCL instructions.

Appendix V to AMC M.A.704 contains an example of an exposition lay-out.

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 CAMO, the LYCAA 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 set-up, 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 the LYCAA 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;

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

- 4.4 a relevant engineering degree or an aircraft maintenance engineer license with additional education acceptable to the LYCAA. '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;
- 4.5 thorough knowledge with the organisation's continuing airworthiness management exposition;
- 4.6 knowledge of a relevant sample of the type(s) of aircraft gained through a formalised training course. These courses should be at least at a level equivalent to LYCAR.66 Appendix III Level 1 General Familiarization and could be imparted by a LYCAR.147 organisation, by the manufacturer, or by any other organisation accepted by the LYCAA.

'Relevant sample' means that these courses should cover typical systems embodied in those aircraft being within the scope of approval.

For any other aircraft of 2 730 kg MTOM and below the formalised training courses may be replaced by demonstration of knowledge. This knowledge may be demonstrated by documented evidence or by an assessment performed by the LYCAA. This assessment should be recorded.

- 4.7 knowledge of maintenance methods.
- 4.8 knowledge of applicable regulations.

AMC M.A.706(a) Personnel requirements

Accountable manager is normally intended to mean the chief executive officer of the CAMO, 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 knowledgeable on technical matters. When the accountable manager is not the chief executive officer, the LYCAA will need to be assured that such an accountable manager has direct access to the chief executive officer and has a sufficiency of continuing airworthiness funding allocation.

AMC M.A.706(e) Personnel requirements

1. The LYCAA should only accept that the nominated post holder be employed by the organisation approved under LYCAR.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 LYCAR.145 and the operator are the same organisation.

AMC M.A.706(f) Personnel requirements

Additional training in fuel tank safety as well as associated inspection standards and maintenance procedures should be required of CAMO technical personnel, especially the staff involved with the management of CDCCL, Service Bulletin assessment, work planning and maintenance programme management. LYCAA guidance is provided for training to CAMO personnel in Appendix XII to AMC to M.A.706(f).

AMC M.A.706(k) Personnel requirements

Adequate initial and recurrent training should be provided and recorded to ensure continued competence.

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

1. Airworthiness review staff are only required if the CAMO wants to be granted M.A.711(b) airworthiness review and, if applicable, M.A.711(c) permit to fly privileges.
2. 'experience in continuing airworthiness' means any appropriate combination of experience in tasks related to aircraft maintenance and/or continuing airworthiness management and/or surveillance of such tasks.
3. A person qualified to the AMC M.A.706 subparagraph 4.5 should be considered as holding the equivalent to an aeronautical degree.
4. An appropriate license in compliance with LYCAR.66 is any one of the following:
 - a category B1 license in the subcategory of the aircraft reviewed, or
 - a category B2 or C license, or
 - in the case of piston-engine non-pressurized aeroplanes of 2 000 kg MTOM and below, a category B3 license.

It is not necessary to satisfy the experience requirements of LYCAR.66 at the time of the review.

5. 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.

Independence from the airworthiness management process may be achieved, among other ways, by:

- Being authorised to perform airworthiness reviews only on aircraft for which the person has not participated in their management. For example, performing airworthiness reviews on a specific model line, while being involved in the airworthiness management of a different model line.
- LYCAR.Part-M Subpart G organisations with LYCAR.145/LYCAR.Part-M Subpart F approval, may nominate maintenance personnel from their LYCAR.145/LYCAR.Part-M Subpart F organisation as airworthiness review staff, as long as they are not involved in the airworthiness management of the aircraft. These personnel should not have been involved in the release to service of that particular aircraft (other than maintenance tasks performed during the physical survey of the aircraft or performed as a result of findings discovered during such physical survey) to avoid possible conflict of interests.
- Nominating as airworthiness review staff personnel from the quality department of the CAMO.

Overall authority on the airworthiness management process of complete aircraft may be achieved, among other ways, by:

- Nominating as airworthiness review staff the accountable manager or the nominated postholder.
- Being authorised to perform airworthiness reviews only on those particular aircraft for which the person is responsible for the complete continuing airworthiness management process.
- In the case of one-man organisations, this person has always overall authority. This means that this person can be nominated as airworthiness review staff.

AMC M.A.707(a)(1) Airworthiness review staff

For all aircraft used in commercial air transport and any other aircraft, other aircraft above 2 730 kg MTOM, formal aeronautical maintenance training means training (internal or external) supported by evidence on the following subjects:

- Relevant parts of initial and continuing airworthiness regulations.
- Relevant parts of operational requirements and procedures, if applicable.
- The organisation's continuing airworthiness management exposition.

- Knowledge of a relevant sample of the type(s) of aircraft gained through a formalised training course.

These courses should be at least at a level equivalent to LYCAR.66 Appendix III Level 1 General Familiarization and could be imparted by a LYCAR.147 organisation, by the manufacturer, or by any other organisation accepted by the LYCAA.

'Relevant sample' means that these courses should cover typical systems embodied in those aircraft being within the scope of approval

- Maintenance methods.

AMC M.A.707(a)(2) Airworthiness review staff

For all any other aircraft of 2 730 Kg MTOM and below, not used in commercial air transport:

1. 'experience in continuing airworthiness' can be full time or part-time, either as professional or on a voluntary basis.
2. Appropriate aeronautical maintenance training means demonstrated knowledge of the following subjects:
 - Relevant parts of initial and continuing airworthiness regulations.
 - Relevant parts of operational requirements and procedures, if applicable.
 - The organisation's continuing airworthiness management exposition.
 - Knowledge of a relevant sample of the type(s) of aircraft gained through training and/or work experience. Such knowledge should be at least at a level equivalent to LYCAR.66 Appendix III Level 1 General Familiarization and could be imparted by a LYCAR PART -147 organisation, by the manufacturer, or by any other organisation accepted by the LYCAA.

'Relevant sample' means that these courses should cover typical systems embodied in those aircraft being within the scope of approval.

- Maintenance methods.

This knowledge may be demonstrated by documented evidence or by an assessment performed by the LYCAA or by other airworthiness review staff already authorised within the organisation in accordance with approved procedures. This assessment should be recorded.

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

The formal acceptance by the LYCAA of the airworthiness review staff is granted through the corresponding LYCAA Form 4.

If the airworthiness review is performed under the supervision of existing airworthiness review staff, evidence should be provided to the LYCAA together with LYCAA Form 4. If satisfied, the LYCAA will issue the formal acceptance through LYCAA Form 4.

Once the airworthiness review staff has been accepted by the LYCAA, the inclusion of their name in the exposition (refer to M.A.704(a)5) constitutes the formal authorisation by the organisation.

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

In order to keep the validity of the airworthiness review staff authorisation, the airworthiness review staff should have either:

- been involved in continuing airworthiness management activities for at least six months in every two year period, or
- conducted at least one airworthiness review in the last twelve month period.

In order to restore the validity of the authorisation, the airworthiness review staff should conduct at a satisfactory level an airworthiness review under the supervision of the LYCAA or, if accepted by the LYCAA, under the supervision of another currently valid authorised airworthiness review staff of the concerned continuing airworthiness management organisation in accordance with an approved procedure.

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

The minimum content of the airworthiness review staff record should be:

- Name,
- Date of Birth,
- Basic Education,
- Experience,
- Aeronautical Degree and/or LYCAR.66 qualification and/or nationally-recognized maintenance personnel qualification,
- Initial Training received,
- Type of Training received,
- Continuation Training received,
- Experience in continuing airworthiness and within the organisation,
- Responsibilities of current role in the organisation,
- Copy of the authorisation.

AMC M.A.708(b)3 Continuing Airworthiness Management

When managing the approval of modifications or repairs the organisation should ensure that Critical Design Configuration Control Limitations are taken into account.

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

1. Where an operator is not approved under LYCAR.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 LYCAR.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 the LYCAA) 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 LYCAA 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 LYCAR.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 LYCAR.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 LYCAR.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 LYCAA 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 LYCAR.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 LYCAR.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 sending himself different types of components to various maintenance organisations approved under LYCAR.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 LYCAR.145 and in accordance with the approved standard.

- Aircraft, 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 LYCAR.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 LYCAR.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 aircraft 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 LYCAA 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 LYCAA, 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 LYCAA 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.709 Documentation

When using maintenance data provided by the customer, the CAMO is responsible for ensuring that this data is current. As a consequence, it should establish appropriate procedures or provisions in the contract with the customer.

The sentence '..., except when required by point M.A.714', means, in particular, the need to keep a copy of the customer data which was used to perform continuing airworthiness activities during the contract period.

'Baseline' maintenance programme: it is a maintenance programme developed for a particular aircraft type following, where applicable, the maintenance review board (MRB) report, the type certificate holder's maintenance planning document (MPD), the relevant chapters of the maintenance manual or any other maintenance data containing information on scheduling.

'Generic' maintenance programme: it is a maintenance programme developed to cover a group of similar types of aircraft. These programmes should be based on the same type of instructions as the baseline maintenance programme. Examples of 'generic' maintenance programmes could be Cessna 100 Series (covering Cessna 150, 172, 177, etc.).

'Baseline' and 'generic' maintenance programmes are not applicable to a particular aircraft registration mark, but to an aircraft type or group of types, and should be available to the LYCAA prior to the initial approval and prior to the extension of the scope of an existing organisation approval. The intent is that the LYCAA is aware of the scope and complexity of tasks that will be managed before granting an organisation approval or change of approval.

After this initial approval, when an owner/operator is contracted, the baseline or generic maintenance programme, as applicable, may be used to establish the M.A.302 aircraft maintenance programme, incorporating the additional maintenance tasks and indicating those which are not applicable to a particular aircraft registration mark. This may be achieved by adding an Annex to the baseline/generic maintenance programme for each aircraft registration, specifying which tasks are added and which are not applicable. This will result in an aircraft maintenance programme specific for each customer.

However, this does not mean that this adaptation must be performed for each contracted aircraft registration. The reason is that the customer may already have an approved aircraft maintenance programme, which in that case should be used by the continuing airworthiness management organisation to manage the continuing airworthiness of such aircraft.

GM M.A.709 Documentation

Paragraph M.A.709(a) refers to continuing airworthiness tasks referred to in M.A.708. As a consequence, this covers continuing airworthiness management tasks but not airworthiness reviews.

Airworthiness review requirements are established in M.A.710 and the requirements for the corresponding record retention are contained in M.A.714.

GM M.A.710 Airworthiness review

Responsibilities of airworthiness review staff:

The following is a summary of the requirements contained in M.A.710 as well as the associated AMCs and

Appendices, in relation to the responsibilities of the airworthiness review staff:

- Airworthiness review staff are responsible for performing both the documental and the physical survey.
- Procedures must be established by the CAMO in order to perform the airworthiness review, including the depth of samplings (refer to Appendix V to AMC M.A.704, paragraphs 4.2 and 4.3).
- Procedures must make very clear that the final word about the depth of the inspections (both documental and physical) belongs to the airworthiness review staff, who can go beyond the depth contained in the CAME if they find it necessary. At the end, it is the responsibility of the airworthiness review staff to be satisfied that the aircraft complies with LYCAR.Part-M and is airworthy, and the organisation must ensure that no pressure or restrictions are imposed on the airworthiness review staff when performing their duty.
- A compliance report must be produced by the airworthiness review staff, detailing all items checked and the outcome of the review.
- Airworthiness review staff are responsible for the items checked during the airworthiness review.

However, they do not take over the responsibilities of the CAMO, LYCAR PART-145, DOA, POA or any other organisations, not being responsible for problems not detected during the airworthiness review or for the possibility that the approved or declared maintenance programme may not include certain recommendations from the Design Approval Holder. Obviously, if the airworthiness review staff are not independent of the airworthiness management process and were nominated on the basis of the option of having overall authority on such a process, they will be responsible for the full continuing airworthiness of such aircraft. Nevertheless, this responsibility will be a consequence of their position related to M.A.706 and not of their position as airworthiness review staff (M.A.707).

- The issuance of the airworthiness review certificate (ARC) by the airworthiness review staff only certifies that the aircraft is considered airworthy in relation to the scope of the airworthiness review performed and the fact that the airworthiness review staff are not aware of instances of non-compliance which endanger flight safety. Furthermore, it only certifies that the aircraft is considered airworthy at the time of the review.

It is the responsibility of the owner or contracted CAMO to ensure that the aircraft is fully airworthy at any time.

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 LYCAA 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 CAMO 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 LYCAR PART-M.

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

The physical survey could require actions categorized 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 LYCAR Part -M.

When the airworthiness review staff are not appropriately qualified to LYCAR.66 in order to release such maintenance, M.A.710(b) requires them to be assisted by such qualified personnel.

However, the function of such LYCAR.66 personnel is limited to perform and release the maintenance actions requested by the airworthiness review staff, it not being their function to

perform the physical survey of the aircraft. As stated in M.A.710(b), the airworthiness review staff shall carry out the physical survey of the aircraft, and this survey includes the verification that no inconsistencies can be found between the aircraft and the documented review of records.

This means that the airworthiness review staff who are going to sign the airworthiness review certificate or the recommendation should be the one performing both the documented review and the physical survey of the aircraft, it not being the intent of the rule to delegate the survey to LYCAR.66 personnel who are not airworthiness review staff. Furthermore, the provision of M.A.710(d) allowing a 90 days anticipation for the physical survey provides enough flexibility to ensure that the airworthiness review staff are present.

The physical survey may include verifications to be carried out during flight.

The CAMO 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.

To ensure compliance the physical survey may include relevant sample checks of items.

AMC M.A.710(d) Airworthiness review

'Without loss of continuity of the airworthiness review pattern' means that the new expiration date is set up one year after the previous expiration date. As a consequence, when the airworthiness review is anticipated, the validity of the airworthiness review certificate is longer than one year (up to 90 days longer).

This anticipation of up to 90 days also applies to the 12 month requirements shown in M.A.901(b), which means that the aircraft is still considered as being in a controlled environment if it has been continuously managed by a single organisation and maintained by appropriately approved organisations, as stated in M.A.901(b), from the date when the last airworthiness review certificate was issued until the date when the new airworthiness review is performed (this can be up to 90 days less than 12 months).

AMC M.A.710(e) Airworthiness review

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

AMC M.A.710(ga) Airworthiness review

This review of the maintenance programme is performed by the person who performed the airworthiness review, who could belong to the LYCAA, a CAMO or a maintenance organisation or could also be independent certifying staff in accordance with M.A.901(g).

During the annual review of the maintenance programme, the following should be taken into consideration:

- The results of the maintenance performed during that year, which may reveal that the current maintenance programme is not adequate.
- The results of the airworthiness review performed on the aircraft, which may reveal that the current maintenance programme is not adequate.
- Revisions introduced in the documents affecting the programme basis, such as the M.A.302(i) 'Minimum Inspection Programme' or the Design Approval Holder data.
- Applicable mandatory requirements for compliance with LYCAR.21, such as Airworthiness Directives, Airworthiness Limitations, Certification Maintenance Requirements and specific maintenance requirements contained in the TCDS.

For the purpose of reviewing the results of the maintenance performed during that year, the airworthiness review staff should request the owner/CAMO to provide the records of all the maintenance performed during that year, including unscheduled maintenance.

When reviewing the results of the maintenance performed during that year and the results of the airworthiness review, attention should be paid as to whether the defects found may have

been prevented by introducing in the maintenance programme certain recommendations from the Design Approval Holder which were initially disregarded by the owner.

GM M.A.710(h) Airworthiness review

The objective of informing the LYCAA when the airworthiness review shows discrepancies linked to deficiencies in the content of the maintenance programme is to allow the LYCAA to take it into account when planning the ACAM inspections and to make sure that the LYCAA agrees on the amendments required in the maintenance programme as required by M.A.302(h)5.

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

An organisation may be approved for the privileges of M.A.711(a) only, without the privilege to carry out airworthiness reviews. This can be contracted to another appropriately approved organisation. In such a case, it is not mandatory that the contracted organisation is linked to an AOC holder, being possible to contract an appropriately approved independent continuing airworthiness management organisation which is approved for the same aircraft type.

In order to be approved for the privileges of M.A.711(b) for a particular aircraft type, it is necessary to be approved for the privileges of M.A.711(a) for that aircraft type. As a consequence, the normal situation in this case is that the organisation will be performing continuing airworthiness management tasks and performing airworthiness reviews on every aircraft type contained in the approval certificate.

Nevertheless, this does not necessarily mean that the organisation needs to be currently managing an aircraft type in order to be able to perform airworthiness reviews on that aircraft type. The organisation may be performing only airworthiness reviews on an aircraft type without having any customer under contract for that type.

Furthermore, this situation should not necessarily lead to the removal of the aircraft type from the organisation approval. As a matter of fact, since in most cases the airworthiness review staff are not involved in continuing airworthiness management activities, it cannot be argued that these airworthiness review staff are going to lose their skills just because the organisation is not managing a particular aircraft type. The important issue in relation to maintaining a particular aircraft type in the organisation approval is whether the organisation continuously fulfils all the Subpart G requirements (facilities, documentation, qualified personnel, quality system, etc.) required for initial approval.

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 non-compliance 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 CAMO to ensure airworthy aircraft and to remain in compliance with the LYCAR.Part-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 CAMO 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 LYCAR.Part-M Subpart G compliance are checked annually, including all the sub-contracted activities, and may be carried out as a complete single exercise or sub-divided over the annual 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 the annual interval 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 LYCAA.
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 LYCAA to show when and how often the activities as required by LYCAR.Part-M Subpart G will be audited.

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

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 LYCAR Part-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 LYCAA 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 CAMO 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 LYCAA 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 unauthorized 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 – CRS

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(f) 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 LYCAR.Part-M and in respect to that work the aircraft is considered ready for release to service'.
 - (b) Reserved.
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 summarize the maintenance so long as there is a unique cross -reference 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 LYCAA 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. At 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. Reserved.

AMC M.A.801(g) 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 CAMO 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 CAMO is responsible for ensuring that all required maintenance has been carried out before flight. Therefore an aircraft owner or CAMO 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 CAMO authorisation, being endorsed on the certificate.
3. If a CRS 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 CAMO so that the issue may be discussed and resolved with the CAMO.

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

'Endangers 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 AD 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 an LYCAA Form 1 may not be necessary depending upon the organisation's internal release procedures, however all the information normally required for the LYCAA Form 1 should be adequately detailed in the certificate of release to service.

SUBPART I — AIRWORTHINESS REVIEW CERTIFICATE

AMC M.A.901 Aircraft airworthiness review

In order to ensure the validity of the aircraft airworthiness certificate, M.A.901 requires performing periodically an airworthiness review of the aircraft and its continuing airworthiness records, which results in the issuance of an airworthiness review certificate valid for one year.

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

The Airworthiness review certificate (LYCAA Form 15a) is issued by LYCAA while the Airworthiness review recommendation (LYCAA Form 15b) is issued by a LYCAR.Part-M Subpart G organisation holding Subpart I privileges.

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

If the continuing airworthiness of the aircraft is not managed according to a LYCAR.Part-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. Nevertheless, such arrangement is not necessary when the operator and the M.A. Subpart G organisation are the same organisation.

AMC M.A.901(c)2, (e) , (f),and (g) Aircraft airworthiness review

Reserved.

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

The recommendation sent by a CAMO to LYCAA should be, in English .

The recommendation sent to the LYCAA should contain at least the items described below:

- (a) General information
 - CAMO information
 - owner/lessee information
 - date and place where the document review and the aircraft survey were carried out
 - period and place the aircraft can be seen if required by the LYCAA
- (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

(g) 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;
- maintenance programme;
- component service life limitations;
- the valid weight and centre of gravity schedule reflecting the current configuration of the aircraft;
- all applicable LYCAR 21 modifications and repairs.
- 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(j) 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 LYCAR.66 is necessary when the LYCAA's airworthiness review staff is not appropriately qualified.

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

In order to allow for possible participation of authority personnel, the applicant should inform the LYCAA at least 30 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 Libya

1. When performing an airworthiness review of aircraft imported into Libya 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 third country authorities such as export certificates, primary authority information;
 - (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;
 - (c) the information on aircraft such as aircraft, engine and propeller type certificate datasheets, noise and emission certificate data sheets, flight manual and supplements;

- (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;
- (e) the modification and repair status of the aircraft detailing elements such as owner/operator designed modifications and repairs, STCs;
- (f) the aircraft cabin configuration such as emergency equipment fitted, cockpit configuration, placards, instrument limitations, cabin layout;
- (g) the maintenance needed for import, such as embodiment of modifications needed to comply with the type certificate, bridging check to comply with the new maintenance programme;
- (h) the 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, emergency locator transmitter (ELT) 406 MHz code and identification;
- (i) the compass compensation;
- (j) special operating rules such as extended twin-engine operations (ETOPS)/long range operations (LROPS), reduced vertical separation minima (RVSM), minimum navigation performance specifications (MNPS), all weather operations (AWOPS), area navigation (RNAV);
- (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.

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

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

- (a) All the information set forth by AMC M.A 901(d) & (g).
- (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;
 - original export certificate;
 - copy of the approvals of the flight manual and its supplements;
 - list of ADs incorporated up to the latest published issue;
 - proposed new maintenance programme;
 - status of all service life limited components;
 - 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 CAMO 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.

AMC to Appendix II to Part-M-Use of the LYCAA Form 1 for maintenance

1. The following formats of an issued LYCAA Form 1 or equivalent certificate are acceptable:

- A paper certificate bearing a signature (both originals and copies are accepted);
- A paper certificate generated from an electronic system (printed from electronically stored data)
- when complying with the following subparagraph 2;
- An electronic LYCAA Form 1 or equivalent when complying with the following subparagraph 2.

2. Electronic signature and electronic exchange of the LYCAA Form1

(a) Submission to the LYCAA

Any organisation intending to implement an electronic signature procedure to issue LYCAA Form 1 and/or to exchange electronically such data contained on the LYCAA Form 1, should document it and submit it to the LYCAA as part of the documents attached to its exposition.

(b) Characteristics of the electronic system generating the LYCAA Form1

The electronic system should:

- guarantee secure access for each certifying staff;
- ensure integrity and accuracy of the data certified by the signature on the form and be able to show evidence of the authenticity of the LYCAA Form 1 (recording and record keeping) with suitable security, safeguards and backups;
- be active only at the location where the part is being released with an LYCAA Form1;
- not permit to sign a blank form;
- provide a high degree of assurance that the data has not been modified after signature (if modification is necessary after issuance, i.e., re-certification of a part, a new form with a new number and reference to the initial issuance should be made).
- provide for a 'personal' electronic signature, identifying the signatory. The signature should be generated only in presence of the signatory.

An electronic signature means data in electronic form which is attached to or logically associated with other electronic data and which serves as a method of authentication and should meet the following criteria:

- it is uniquely linked to the signatory;
- it is capable of identifying the signatory;
- it is created using means that the signatory can maintain under his sole control.

This electronic signature should be an electronically generated value based on a cryptographic algorithm and appended to data in a way to enable the verification of the data's source and integrity.

The electronic system should be based on a policy and management structure (confidentiality, integrity and availability), such as:

- Administrators, signatories;
- Scope of authorisation, rights;
- Password and secure access, authentication, protections, confidentiality;
- Track changes;
- Minimum blocks to be completed, completeness of information;
- Archives;
- etc.

The electronic system generating the LYCAA Form 1 may contain additional data such as;

- Manufacturer code;

- Customer identification code;
- Workshop report;
- Inspection results;
- etc.

(c) Characteristics of the LYCAA Form 1 generated from the electronic system.

To facilitate understanding and acceptance of the LYCAA Form 1 released with an electronic signature, the following statement should be in Block 14b: 'Electronic Signature on File'.

In addition to this statement, it is accepted to print or display a signature in any form, such as a representation of the hand-written signature of the person signing (i.e. scanned signature) or a representation of their name.

When printing the electronic form, the LYCAA Form 1 should meet the general format as specified in Appendix II to LYCAR PART-M. A watermark-type 'PRINTED FROM ELECTRONIC FILE' should be printed on the document.

When the electronic file contains a hyperlink to data required to determine the airworthiness of the item(s), the data associated to the hyperlink, when printed, should be in a legible format and be identified as a reference from the LYCAA Form 1.

Additional information not required by the LYCAA Form 1 completion instructions may be added to the printed copies of LYCAA Form 1, as long as the additional data do not prevent a person from filling out, issuing, printing, or reading any portion of the LYCAA Form 1. This additional data should be provided only in block 12 unless it is necessary to include it in another block to clarify the content of that block.

(d) Electronic exchange of the electronic LYCAA Form 1

The electronic exchange of the electronic LYCAA Form 1 should be accomplished on a voluntary basis. Both parties (issuer and receiver) should agree on electronic transfer of the LYCAA Form 1.

For that purpose, the exchange needs to include:

- all data of the LYCAA Form 1, including referenced data required by the LYCAA Form 1 completion instructions;
- all data required for authentication of the LYCAA Form1.
- In addition, the exchange may include:
 - data necessary for the electronic format;
 - additional data not required by the LYCAA Form 1 completion instructions, such as manufacturer code, customer identification code.
- The system used for the exchange of the electronic LYCAA Form 1 should provide:
 - A high level of digital security; the data should be protected, not altered or not corrupted;
 - Traceability of data back to its source.

Trading partners wishing to exchange LYCAA Form 1 electronically should do so in accordance with the means of compliance stated in this document. It is recommended that they use an established, common, industry method such as Air Transport Association (ATA) Spec 2000 Chapter 16.

The organisation(s) are reminded that additional national requirements may need to be satisfied when operating the electronic exchange of the electronic LYCAA Form 1.

The receiver should be capable of regenerating the LYCAA Form 1 from the received data without alteration; if not, the system should revert back to the paper system.

When the receiver needs to print the electronic form, refer to subparagraph c) here above.

GM to Appendix II to Part-M Use of the LYCAA Form 1 for maintenance

LYCAA Form 1 Block 1 2 'Remarks'

Examples of data to be entered in this block as appropriate:

- Maintenance documentation used, including the revision status, for all work performed and not limited to the entry made in block 11.
- A statement such as 'in accordance with the CMM' is not acceptable.
- NDT methods with appropriate documentation used when relevant.
- Compliance with airworthiness directives or service bulletins.
- Repairs carried out.
- Modifications carried out.
- Replacement parts installed.
- Life-limited parts status.
- Shelf life limitations.
- Deviations from the customer work order.
- Release statements to satisfy a foreign Civil Aviation Authority maintenance requirement.
- Information needed to support shipment with shortages or re-assembly after delivery.
- References to aid traceability, such as batch numbers.

AMC to Appendix V to Part-M Maintenance Organisation Approval referred to in LYCAR.Part-M Subpart F

The following fields on page 2 'Maintenance Organisation Approval Schedule' of the maintenance organisation approval certificate should be completed as follows:

- Date of original issue: It refers to the date of the original issue of the maintenance organisation manual.
- Date of last revision approved: It refers to the date of the last revision of the maintenance organisation manual affecting the content of the certificate. Changes to the maintenance organisation manual which do not affect the content of the certificate do not require the reissuance of the certificate.
- Revision No: It refers to the revision No of the last revision of the maintenance organisation manual affecting the content of the certificate. Changes to the maintenance organisation manual which do not affect the content of the certificate do not require the reissuance of the certificate.

AMC to Appendix VI to Part-M Continuing Airworthiness Management Organisation Approval referred to in LYCAR.Part-M Subpart G

The following fields on page 2 'Continuing Airworthiness Management Organisation Approval Schedule' of the continuing airworthiness management organisation approval certificate should be completed as follows:

- Date of original issue: It refers to the date of the original issue of the continuing airworthiness management exposition
- Date of last revision: It refers to the date of the last revision of the continuing airworthiness management exposition affecting the content of the certificate. Changes to the continuing airworthiness management exposition which do not affect the content of the certificate do not require the reissuance of the certificate.
- Revision No: It refers to the revision No of the last revision of the continuing airworthiness management exposition affecting the content of the certificate. Changes to the continuing airworthiness management exposition which do not affect the content of the certificate do not require the reissuance of the certificate.

AMC to Appendix VII 'Complex Maintenance Tasks'

The sentence 'suitably approved or authorised welder' contained in Appendix VII, paragraph 3(c), means that the qualification should meet an officially recognized standard or, otherwise, should be accepted by LYCAA.

APPENDICES TO AMC'S AND GM**Appendix I to AMC M.A.302****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 CAMO 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 CAMO 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 utilisation 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 LYCAA.
 - 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.
 - (d) Widespread Fatigue Damage.
 - 1.1.14. If applicable, details of Critical Design Configuration Control Limitations together with appropriate procedures.
 - 1.1.15. 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.
 - 1.1.16. The periods at which overhauls and/or replacements by new or overhauled components should be made.
 - 1.1.17. A cross-reference to other documents approved by the LYCAA 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.

- 1.1.18. Details of, or cross-reference to, any required reliability programme or statistical methods of continuous Surveillance.
- 1.1.19. 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.
- 1.1.20. Each maintenance task quoted should be defined in a definition section of the programme.
- 1.1.21. Operators and continuing airworthiness management organisations are required to develop procedures to comply with maintenance requirements for cockpit voice recorders (CVR) and (digital) flight data recorders FDR(DFDR). Instructions may include requirements published by one or more of the equipment manufacturers, TC/STC holders and the LYCAA. In order to allow detection of dormant failures performing the following maintenance actions are required to be included in the maintenance programme.
- (a) For CVR: At intervals not exceeding 12 months, inspect the installation.
Confirm by means of the CVR controller monitor jack, proper recording on each audio channel from area microphone(s), receiver audio, side tone, interphone, public address (if recorded) and boom microphone (including 'hot mike' function, i.e. interphone OFF). Confirm proper function of the inhibit logic for the bulk erase.
- (b) For FDR (DFDR): As part of each Pre-Flight Check; carry out an operational check for no-failure.
- 1.1.22 Every 24 month inspections should be included in the AMP to be carried out as follows for CVR and FDR (DFDR):
- (a) The read-out of the recorded data from the CVR and FDR (DFDR) should ensure that the recorder operates correctly for the nominal duration of the recording in accordance with LYCAR Air Operations.
- (b) The analysis of the FDR (DFDR) should evaluate the quality of the recorded data to determine if the bit error rate is within acceptable limits and to determine the nature and distribution of the errors.
- (c) A complete flight from the FDR (DFDR) should be examined in engineering units to evaluate the validity of all recorded parameters. Particular attention should be given to parameters from sensors dedicated to the FDR(DFDR). Parameters taken from the aircraft's electrical bus system need not be checked if their serviceability can be detected by other aircraft systems.
- NOTE: This recording should be preserved, at least until replaced by a more recent one. The purpose of this is to ensure that, in the event of an accident/incident, air accident investigators have access to a readout from the flight recording system that is representative of the actual aircraft conditions prior to the event*
- (d) The read-out facility should have the necessary software to accurately convert the recorded values to engineering units and to determine the status of discrete signals.
- (e) A sampling of 10% of the fleet should be carried out within the 24 month period examining the recorded signals on the CVR by a re-play of the CVR recording. Furthermore, Where practicable, during the 24 month period examination (i.e. AMP task), a sample of in-flight recordings of the CVR should be examined for evidence that the intelligibility of the signal is acceptable.
- NOTE: While installed in the aircraft, the CVR should record test signals from each aircraft source and from relevant external sources to ensure that all required signals meet intelligibility standards.*
- 1.1.23 Calibration of the FDR (DFDR) system, unless otherwise addressed by the aircraft Type Certificate Holder or OEM, should be included in the AMP as follows:

- (a) The FDR(DFDR) system should be re-calibrated at least every five years to determine any discrepancies in the engineering conversion routines for the mandatory parameters, and to ensure that parameters are being recorded within the calibration tolerances, and
 - (b) When the parameters of altitude and airspeed are provided by sensors that are dedicated to the FDR (DFDR) system, there should be a re-calibration performed as recommended by the sensor manufacturer, or at least every two years.
- 1.1.24 When developing the aircraft maintenance programme, operators should consider the instructions for continued airworthiness provided by the TC or STC holder for the CVR/FDR (DFDR) and the ICAO guidelines stated in ICAO Annex 6 ATT D-2 as a minimum. CVR and FDR (DFDR) malfunction occurrences should be reported to the LYCAA. In addition, procedures for the analysis of CVR/FDR (DFDR) recordings, including arrangements with any sub-contracted organisation when applicable, should be reflected in the organisation CAME procedures. Specific procedures for the analysis of FDR (DFDR) recordings should include:
- (a) Arrangements for the accomplishment of a representative flight, and provision of the recorded parameters, for assessment of the recording.
 - (b) Method of transmission of the data to a suitable readout facility.
 - (c) Where the analysis of the readout results will be carried out and how the results will be presented to the operator.
 - (d) The method of recording a satisfactory readout in the continuing airworthiness records.
 - (e) The procedures to be used to raise any defects noted during the readout check and to control their rectification in accordance with MEL requirements.
- 1.1.25 Operators and continuing airworthiness management organisations are required to develop procedures to comply with maintenance requirements of the Emergency Locator Transmitter (ELT), including fixed, portable and automatically deployable ELT devices. In order to allow detection of dormant failures performing the following minimum maintenance actions are required to be included in the maintenance programme. At all times the manufacturer's instructions for continuing airworthiness must be followed.
- (a) ELTs installed in aircraft are subject to extreme environmental conditions which may cause corrosion to develop in circuit boards and battery compartments. As a minimum, a corrosion inspection shall be performed in accordance with CMM requirements where available or when ELT is subject (but not limited to) repair, overhaul or ULB battery replacement.
 - (b) Performance and operational testing of the installed ELT system should be carried out in accordance with the CMM interval for operational test requirements, and also in accordance with the ELT manufacturers approved technical data. International guidelines on the timing of such tests, if carried out in-situ, should also be followed.
- 2. Programme basis**
- 2.1. An owner or a CAMO 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 re-written by the owner or the CAMO 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 CAMO 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 CAMO 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 CAMO when assessing an existing programme.

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

2.4. Critical Design Configuration Control Limitations (CDCCL)

If CDCCL have been identified for the aircraft type by the TC/STC holder, maintenance instructions should be developed. CDCCL's are characterised by features in an aircraft installation or component that should be retained during modification, change, repair, or scheduled maintenance for the operational life of the aircraft or applicable component or part.

3. Amendments

Amendments (revisions) to the approved maintenance programme should be made by the owner or the CAMO, to reflect changes in the TC holder's recommendations, modifications, service experience, or as required by the LYCAA.

4. Permitted variations to maintenance periods

The owner or the CAMO may only vary the periods prescribed by the programme with the approval of the LYCAA or through a procedure developed in the maintenance programme and approved by the LYCAA.

5. Periodic review of maintenance programme contents

- 5.1. The owner or the CAMO 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 CAMO 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 LYCAR.Part-M;
- (c) the aircraft maintenance programme provides overhaul time periods for all significant system components;
- (d) 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, a CAMO 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 CAMO/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 CAMO fleet size.

- 6.2.3. Complex reliability programmes could be inappropriate for a small fleet. It is recommended that such CAMOs 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. A CAMO 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 CAMO 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, a CAMO is encouraged to establish contact and make comparisons with other CAMOs 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 CAMO(s). Paragraph 6.6 of this paragraph specifies under which conditions it is acceptable that CAMOs share reliability data.
- 6.2.7. Notwithstanding the above there are cases where the CAMO will be unable to pool data with other CAMO, e.g. at the introduction to service of a new type. In that case the LYCAA should impose additional restrictions on the MRB/MPD tasks intervals (e.g. no variations or only minor evolution are possible, and with the LYCAA 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 CAMO maintenance and reliability programmes, the LYCAA is expected to ensure that the organisation which runs the programme (it may be CAMO, or an Part-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 LYCAA 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 CAMO to the LYCAA, it is understood that the CAMO may delegate certain functions to the Part-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 CAMO.

- 6.4.3. Notwithstanding the above decision to implement a corrective action (or the decision to request from the LYCAA the approval to implement a corrective action) remains the CAMO 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 CAMO and the LYCAR.145 organisation should be specified in the maintenance contract (see appendix II) 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. 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 CAMO, to an integrated maintenance management programme for a big CAMO. 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, LYCAR.145 and LYCAR.Part-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 LYCAR Part -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 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 CAMO 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 LYCAA's 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 LYCAA should be stated. This information should be contained in the CAME or MOE as appropriate.

6.5.9. Presentation of information to the LYCAA.

The following information should be submitted to the LYCAA 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 LYCAA 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 LYCAA may authorise the CAMO 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 CAMOs of the same type of aircraft. For the analysis to be valid, the aircraft concerned, mode of operation, and maintenance procedures applied should be substantially the same: variations in utilisation between two CAMOs 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 LYCAA 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 LYCAA, 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 CAMO to the above, requires assessment in order that the pooling benefits can be maintained. Where a CAMO wishes to pool data in this way, the approval of the LYCAA should be sought prior to any formal agreement being signed between CAMOs.
- 6.6.5. Whereas this paragraph 6.6 is intended to address the pooling of data directly between CAMOs, it is acceptable that the CAMO participates in a reliability programme managed by the aircraft manufacturer, when the LYCAA is satisfied that the manufacturer manages a reliability programme which complies with the intent of this paragraph.

Appendix II to AMC 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 LYCAR.Part-M 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 sub-contracted organisation can achieve the standards required by LYCAR Part-M 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 sub-contracted, 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 LYCAA, 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 sub-contracted activities. Such procedures may be developed by either the sub-contracted 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 LYCAA as extended procedures of the operator and as such should be cross-referenced 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 LYCAA 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 LYCAR.Part-M 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 fulfil 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 fulfil their responsibilities.

Note: The operator retains authority to override where necessary for the continuing airworthiness of their aircraft, any recommendation of the sub-contracted 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 be provided for LYCAA monitoring.
- 1.12. The contract should address the respective responsibilities to ensure that any findings arising from the LYCAA monitoring will be closed to the satisfaction of the LYCAA.

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 LYCAA 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 LYCAA 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 sub-contracted 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 LYCAA.

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 the LYCAA.

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:

- Applicable work package, including job cards,
- Scheduled component removal list,
- ADs to be incorporated,
- 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 LYCAR.Part-M 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 LYCAR Part-M Subpart G and the contract. Audit reports may be subject to review when requested by the LYCAA.

2.7. Access by the LYCAA

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

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 authority 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 sub-contracted 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:

- Maintenance programme,
- ADs,
- Service Bulletins,
- Major repairs/modification data,
- Aircraft Maintenance Manual,
- Engine overhaul manual,
- Aircraft IPC,
- Wiring diagrams,
- 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 LYCAR.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 fulfil 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 LYCAR.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. Engine health monitoring

If the operator sub-contracts the on-wing engine health monitoring, the sub-contracted 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 dependent upon the procedural authority granted by the LYCAA may determine that some defects can be deferred. Therefore, adequate liaison between the operator, his sub-contracted organisation and contracted LYCAR.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 LYCAR.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 LYCAR.Part-M and LYCAR.145 should be reported as required by the respective requirements. The operator should ensure adequate liaison exists with the sub-contracted organisation and the LYCAR.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 LYCAR Part-M should be satisfied. Access to the records by duly authorised members of the LYCAA 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 LYCAR.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 sub-contracted organisation and, where different to the foregoing, the contracted LYCAR.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 LYCAA 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 LYCAR.145 approved organisation's respective involvement in that programme, including the participation to reliability meetings. Provision to enable the LYCAA participation in the periodical reliability meetings should also be provided.

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 LYCAR Part-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 contents
- List of effective pages
- Record of amendments
- Amendment procedure
 - Drafting
 - Amendments requiring direct approval by the LYCAA
 - Approval
- Distribution
 - Name or title of each person holding a copy of the manual
- Accountable manager statement
- Approval of the manual
- Statement that the maintenance organisation manual and any incorporated document
- identified therein reflect the organisation's means of compliance with LYCAR.Part-M
- Commitment to work according to the manual
- 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 and airworthiness review staff
 - Minimum qualification and experience

- List of authorised certifying staff and airworthiness review staff, their scope of qualification and the personal authorisation reference
 - 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 C — General Procedures
- Organisational review
 - Purpose (to insure that the approved maintenance organisation continues to meet the requirements of LYCAR Part -M)
 - Responsibility
 - Organisation, frequency, scope and content (including processing of authority's findings)
 - Planning and performance of the review
 - Organisational review checklist and forms
 - Processing and correction of review findings
 - Reporting
 - Review of subcontracted work
 - Training
 - Description of the methods used to ensure compliance with the personnel qualification and training requirements (certifying staff training, specialised training)
 - Description of the personnel records to be retained
 - Subcontracting of specialised services
 - Selection criteria and control
 - Nature of subcontracted work
 - List of subcontractors
 - Nature of arrangements
 - Assignment of responsibilities for the certification of the work performed
 - One time authorisations
 - Maintenance checks

- Certifying staff

Part D — Working Procedures

- Work order acceptance
- Preparation and issue of the work package
 - Control of the work order
 - Preparation of the planned work
 - Work package content (copy of forms, work cards, procedure for their use, distribution)
 - 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 LYCAA Form 1
 - Incomplete maintenance
 - Check flight authorisation
 - Copy of CRS and LYCAA Form 1
- Records
- Airworthiness review procedures and records for LA1 aircraft not involved in commercial operations
- Development and approval processing for maintenance programmes for LA2 aircraft not involved in commercial operations
- Special procedures

- Such as specialised tasks, disposal of unsalvageable components, re-certification of parts not having an LYCAA 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 LYCAA.
 - Final validation

Part E – Appendices

- Sample of all documents used.
- List of maintenance locations.
- List of LYCAR.145 or LYCAR.Part-M Subpart F organisations.
- List of subcontracted specialised services.

3. Approval

The LYCAA 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 LYCAA.

4. Continuous compliance with LYCAR.Part-M

When a maintenance organisation manual no longer meets the requirements of this LYCAR Part -M, whether through a change in LYCAR Part -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.

5. 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 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.
0.5	Notification procedure to the LYCAA regarding changes to the 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 repair and 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).
2.4	Monitoring that all maintenance is carried out by an appropriate maintenance organisation.
2.5	Monitoring that all contracted maintenance is carried out in accordance with the 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 LYCAA for the import of aircraft.
- 4.5 Recommendations to LYCAA 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 subcontractors as per AMC M.A.201(h)1 and M.A.711(a)3;
- 5.4 List of approved maintenance organisations contracted;
- 5.5 Copy of contracts for subcontracted work (Appendix II to AMC M.A.201(h)1)
- 5.6 Copy of contracts with approved maintenance organisations.

LIST OF EFFECTIVE PAGES

Page	Revision
1	Original
2	Original

Page	Revision
3	Original
4	Original

Page	Revision
5	Original
...	

DISTRIBUTION LIST

(The document should include a distribution list to ensure proper distribution of the manual and to demonstrate to the LYCAA 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:

- *the operator's or the organisation's management personnel and any person at a lower level as necessary; and,*
- *the LYCAR.145 or LYCAR.Part-M.A. Subpart F contracted maintenance organisation(s) ; and,*
- *The LYCAA.*

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 {XXXX} under LYCAR Part –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 {XXXX} 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 LYCAA from time to time where these new or amended regulations are in conflict with these procedures.

The LYCAA will approve this organisation whilst the LYCAA is satisfied that the procedures are being followed. It is understood that the LYCAA reserves the right to suspend, vary or revoke the LYCAR.Part –M Subpart G continuing airworthiness management approval of the organisation, as applicable, if the LYCAA 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 LYCAR Part –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 (xxxx Airlines, YYYY Finance, ZZZZ Leasing, BBBB 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 LYCAA 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 LYCAA 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 :)

XXXX PLC manages, as of 28 November 2013, 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 XXXX Airlines' current AOC (or else where e.g. in the Operation Manual, by agreement of the LYCAA

(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 LYCAR Part –M 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:

- *Emphasize 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 LYCAR PART –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 LYCAR Part –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 2013, the number of employees dedicated to the performance of the continuing airworthiness management system is the following:

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

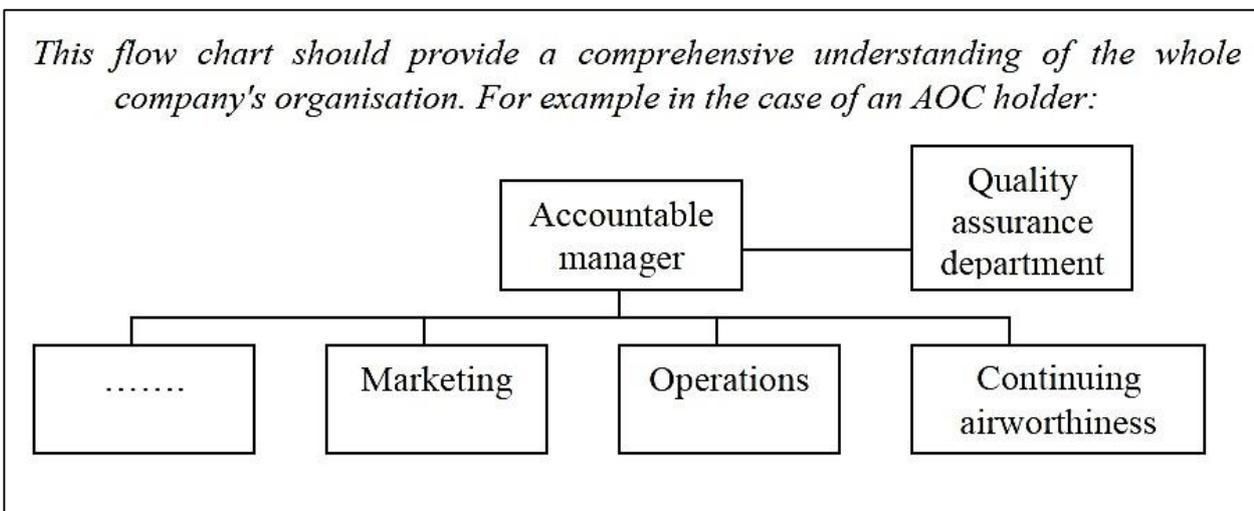
(Note: According to the size and complexity of the organisation, this table may be further developed or simplified)

(3) 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 assessed and how the training recording and follow-up is performed)

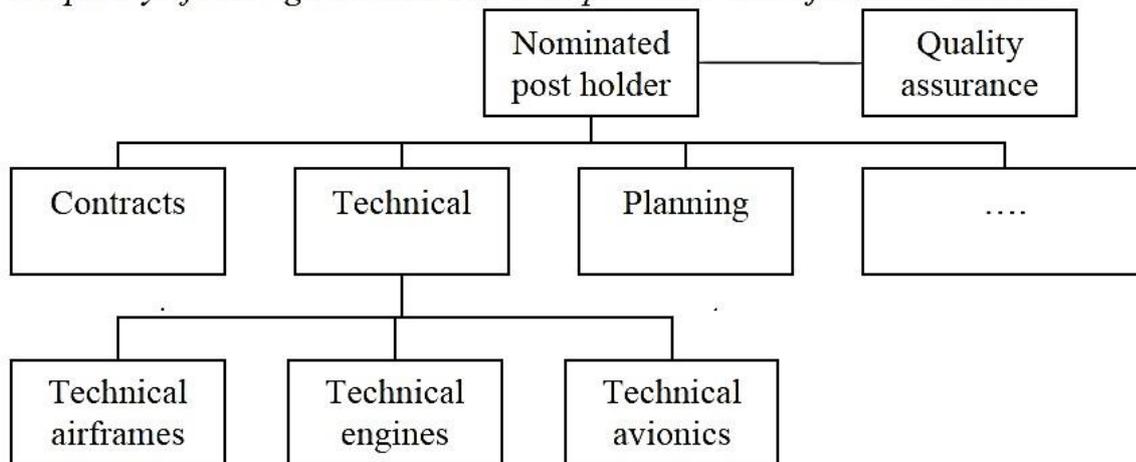
0.4 Management organisation charts

(a) General organisation chart



b) Continuing airworthiness management organisation chart

This flow chart should give further details on the continuing airworthiness Management system, and should clearly show the independence of the quality monitoring system, including the links between the quality assurance department and the other departments (see example below). This flow chart may be combined with the one above or subdivided as necessary, depending on the size and the complexity of the organisation. For example in the case of an AOC holder:



0.5 Notification procedure to the LYCAA regarding changes to the organisation's activities /

approval / location / personnel

(This paragraph should explain in which occasion the company should inform the LYCAA 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 LYCAA any change concerning:

- (1) the company's name and location(s)
- (2) the group of person as specified in paragraph 0.3.c)
- (3) operations, procedures and technical arrangements, as far as they may affect the approval.

0.6 Exposition amendment procedure

(This paragraph should explain who is responsible for the amendment of the exposition and submission to the LYCAA for approval. This may include, if agreed by the LYCAA 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 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 LYCAA 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 LYCAA 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) 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 LYCAA recommendations, in service experience, and reliability reports.)

(4) Acceptance by LYCAA

(This paragraph should explain who is responsible for the submission of the maintenance programme to the LYCAA and what the procedure to follow is. This should in particular address the issue of the LYCAA approval for variation to maintenance periods. This may include, if agreed by LYCAA 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 organisation 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. LYCAA + 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:

- the AD is not applicable or,
- 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 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

(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 and modification standards

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

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 LYCAA, 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 LYCAA 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 LYCAA.

(Where the organisation has a DOA capability under LYCAR.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 LYCAA.)

(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
- (c) Control of refueling, Quantity/Quality
- (d) Control of snow, ice, residues from de-icing or anti-icing operations, 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 LYCAR.Part 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 LYCAR.Part 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 sub-contracting, 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 fulfil 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 organisation

(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 feedback 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,
- everyone 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 Part 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 should 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 should 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 LYCAA 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 should include: communication

with the LYCAA, 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 LYCAA for the issue of airworthiness review certificates

(This paragraph should stipulate the communication procedures with the LYCAA 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 sub-contracted 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 Organisational Review

Reserved

Appendix IX to AMC M.A.602 and AMC M.A.702 LYCAA Form2

TBD

Appendix X

Reserved

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 LYCAR.145 approved organisation. As only the technical parts of the maintenance contracts have to be acceptable to the LYCAA, the following paragraphs only address technical matters and exclude matters such as costs, delay, warranty, etc...

When maintenance is contracted to more than one LYCAR.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 should be established organisational responsibility, procedures and routines in the operator's M.A. Subpart G & LYCAR.145 organisations to take care of these functions in a satisfactory way such that any person involved is informed about his/her responsibility and the procedures which apply. These procedures and routines can be included/appended 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/Engine maintenance

The following subparagraphs may be adapted to a maintenance contract that applies to aircraft base maintenance, aircraft line maintenance and engine 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 maintenance to be performed by the LYCAR.145 approved organisation should be specified unambiguously. In case of line and/or base maintenance, the contract should specify the aircraft type and, preferably include the aircraft's registrations.

In case of engine maintenance, the contract should specify the engine type.

2.2. Locations identified for the performance of maintenance/ Certificates held

The place(s) where base, line or engine maintenance, as applicable, 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 LYCAR.145 approved organisation may subcontract tasks to a third party (whether this third party is LYCAR.145 approved or not). At least the contract should make reference to 145.A.75. Additional guidance is provided by the AMC 145.A.75. In addition the operator may require the Part-145 approved organisation to obtain 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 LYCAR.145 approved organisation's subcontractors involved in the contract. It should however be noted that under operators responsibility both the operator and its LYCAA are entitled to be fully informed about subcontracting, although the LYCAA 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 should have that maintenance programme approved by its LYCAA. 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 its LYCAA.

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 LYCAR.145 approved organisation. The maintenance contract should specify how the results of the quality surveillance are taken into account by the LYCAR.145 approved organisation (See also paragraph 2.22. 'Meetings').

2.6. LYCAA involvement

When the operator's LYCAA and the LYCAR.145 approved organisation's LYCAA is not the same, the operator and the LYCAR.145 approved organisation have to ensure together with their LYCAA that the respective LYCAA 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 should be specified. This may include, but may not be limited to:

- maintenance programme,
- airworthiness directives,
- major repairs/modification data,
- aircraft maintenance manual,
- aircraft IPC,
- wiring diagrams,
- trouble shooting manual,
- Minimum Equipment List (normally on board the aircraft),
- operators manual,
- Flight Manual,
- engine maintenance manual,
- engine overhaul manual.

2.8. Incoming Conditions

The contract should specify in which condition the operator should send the aircraft to the LYCAR.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 2.23: 'Meetings').

2.9. Airworthiness Directives and Service Bulletin/Modifications

The contract should specify what information the operator is responsible to provide to the Part-145 approved organisation, such as the due date of the airworthiness directives (ADs), the selected means of compliance, the decision to embody Service Bulletins (SBs) 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 LYCAR.

145 approved organisation should receive 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 2.22: 'Exchange of information').

2.11. Service life-limited components

Service life-limited components control is the responsibility of the operator.

The LYCAR.145 approved organisation will have to provide the operator with all the necessary information about the service life-limited components removal/installation so that the operator may update its records (see also paragraph 2.22 'Exchange of information').

2.12. Supply of parts

The contract should specify whether a particular type of material or component is supplied by the operator or by the contracted LYCAR.145 approved organisation, which type of component is pooled, etc. The contract should clearly state that it is the LYCAR.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 installation. In other words, there is definitely no way for a LYCAR.145 organisation to accept whatever is supplied by the operator. Additional guidance is provided by 145.A.42 for acceptance of components.

2.13. Pooled parts at line stations

If applicable 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 LYCAR.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.

When the LYCAR.145 approved organisation determines, for any reason, to defer a maintenance task, it has to be formally agreed with 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 LYCAR.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 should be submitted to the operator and, if applicable, to its LYCAA.

2.16. Deferred tasks

See paragraphs 2.14 and 2.15 above and AMC 145.A.50(e). In addition, for aircraft line and base maintenance 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 its LYCAA or granted by the operator in accordance with a procedure acceptable to its LYCAA. The contract should specify the support the LYCAR.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 after aircraft maintenance, it should be performed in accordance with the

procedures established in the operator's continuing airworthiness management exposition.

2.19. Bench Test

The contract should specify the acceptability criterion and whether a representative of the operator should witness an engine undergoing test.

2.20. Release to service documentation

The release to service has to be performed by the LYCAR.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, LYCAR.145 approved organisation's maintenance visit file, etc.) and the documentation the LYCAR.145 approved organisation 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 ADs incorporated,
- maintenance visit report,
- test bench report.

2.21. Maintenance recording

The operator may contract the LYCAR.145 approved organisation to retain some of the maintenance records required by LYCAR.145 Subpart C. It should be ensured that every requirement of LYCAR.145 M Subpart C is fulfilled by either the operator or the LYCAR.145 approved organisation. In such a case, free and quick access to the above-mentioned records should be given by the LYCAR.145 approved organisation to the operator and its LYCAA .

2.22. Exchange of information

Each time exchange of information between the operator and the LYCAR.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.

2.23. Meetings

For the LYCAA to be satisfied that a good communication system exists between the operator and the LYCAR.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.

2.23.1. Contract review

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

2.23.2. Work scope planning meeting

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

2.23.3. Technical meeting

Scheduled meetings may be organised in order to review on a regular basis technical matters such as ADs, SBs, future modifications, major defects found during maintenance check, reliability, etc.

2.23.4. 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.

2.23.5. Reliability meeting

When a reliability programme exists, the contract should specify the operator's and LYCAR.145 approved organisation's respective involvement in that programme, including the participation in reliability meetings.

Appendix XII to AMC to M.A.706(f) Fuel Tank Safety training

This appendix includes general instructions for providing training on Fuel Tank Safety issues.

(B) Effectivity:

- Large aeroplanes with a maximum type certified passenger capacity of 30 or more or a maximum certified payload capacity of 7500 lbs (3402 kg) cargo or more, and

(C) Affected organisations:

- CAMOs involved in the continuing airworthiness management of aeroplanes specified in paragraph A).
- LYCAA.

(D) Persons from affected organisations who should receive training:

Phase 1 only:

- The quality manager and quality personnel.
- Personnel of the LYCAA .

Phase 1 + Phase 2 + Continuation training:

- Personnel of the CAMO involved in the management and review of the continuing airworthiness of aircraft specified in paragraph A);

(E) General requirements of the training courses

Phase 1 – Awareness

The training should be carried out before the person starts to work without supervision but not later than 6 months after joining the organisation. The persons who have already attended the Level 1 Familiarization course in compliance with Appendix XII (M.A.706 f) are already in compliance with Phase 1.

Type: Should be an awareness course with the principal elements of the subject. It may take the form of a training bulletin, or other self-study or informative session. Signature of the reader is required to ensure that the person has passed the training.

Level: It should be a course at the level of familiarization with the principal elements of the subject.

Objectives:

The trainee should, after the completion of the training:

1. Be familiar with the basic elements of the fuel tank safety issues.
2. Be able to give a simple description of the historical background and the elements requiring a safety consideration, using common words and showing examples of non-conformities.
3. Be able to use typical terms.

Content: The course should include:

- a short background showing examples of FTS accidents or incidents,
- the description of concept of fuel tank safety and CDCCL,
- some examples of manufacturers documents showing CDCCL items,
- typical examples of FTS defects,
- some examples of TC holders repair data
- some examples of maintenance instructions for inspection. Phase 2 - Detailed training

The persons who have already attended the Level 2 Detailed training course in compliance with Appendix XII either from a CAMO or from a LYCAR.147 training organisation are already in compliance with Phase 2 with the exception of continuation training.

Staff should have received Phase 2 training within 12 months of joining the organization.

Type: Should be a more in-depth internal or external course. It should not take the form of a training bulletin or other self-study. An examination should be required at the end, which

should be in the form of a multi choice question, and the pass mark of the examination should be 75%.

Level: It should be a detailed course on the theoretical and practical elements of the subject.

The training may be made either:

- in appropriate facilities containing examples of components, systems and parts affected by Fuel Tank Safety (FTS) issues. The use of films, pictures and practical examples on FTS is recommended; or
- by attending a distance course (e-learning or computer based training) including a film when such film meets the intent of the objectives and content here below. An e- learning or computer based training should meet the following criteria:
- A continuous evaluation process should ensure the effectiveness of the training and its relevance;
- Some questions at intermediate steps of the training should be proposed to ensure that the trainee is authorized to move to the next step;
- The content and results of examinations should be recorded;
- Access to an instructor in person or at distance should be possible in case support is needed.

A duration of 8 hours for phase 2 is an acceptable compliance.

When the course is provided in a classroom, the instructor should be very familiar with the data in Objectives and Guidelines. To be familiar, an instructor should have attended himself a similar course in a classroom and made additionally some lecture of related subjects.

Objectives:

The attendant should, after the completion of the training:

- have knowledge of the history of events related to fuel tank safety issues and the theoretical and practical elements of the subject, have an overview of the FAA regulations known as SFAR (Special FAR) 88 of the FAA and of JAA Temporary Guidance Leaflet TGL 47, be able to give a detailed description of the concept of fuel tank system ALI (including Critical Design Configuration Control Limitations CDCCL, and using theoretical fundamentals and specific examples;
- have the capacity to combine and apply the separate elements of knowledge in a logical and comprehensive manner;
- have knowledge on how the above items affect the aircraft;
- be able to identify the components or parts or the aircraft subject to FTS from the manufacturer's documentation,
- be able to plan the action or apply a Service Bulletin and an Airworthiness Directive. **Content:** Following the guidelines described in paragraph E).

Continuation training:

The organisation should ensure that the continuation training is performed in each two years period. The syllabus of the training programme referred to in the Training policy of the Continuing Airworthiness Management Exposition (CAME) should contain the additional syllabus for this continuation training.

The continuation training may be combined with the phase 2 training in a classroom or at distance.

The continuing training should be updated when new instructions are issued which are related to the material, tools, documentation and manufacturer's or LYCAA directives.

(F) Guidelines for preparing the content of Phase 2 courses.

The following guidelines should be taken into consideration when the phase 2 training programme are being established:

- (a) understanding of the background and the concept of fuel tank safety,

- (b) how the mechanics can recognise, interpret and handle the improvements in the instructions for continuing airworthiness that have been made or are being made regarding fuel tank systems,
- (c) awareness of any hazards especially when working on the fuel system, and when the Flammability Reduction System using nitrogen is installed.

Paragraphs (a) (b) and (c) above should be introduced in the training programme addressing the following issues:

- (i) The theoretical background behind the risk of fuel tank safety: the explosions of mixtures of fuel and air, the behavior of those mixtures in an aviation environment, the effects of temperature and pressure, energy needed for ignition etc, the 'fire triangle', - Explain 2 concepts to prevent explosions:
 - (1) ignition source prevention and
 - (2) flammability reduction,
- (ii) The major accidents related to fuel tank systems, the accident investigations and their conclusions,
- (iii) SFAR 88 of the FAA and JAA Interim Policy INT POL 25/12: ignition prevention program initiatives and goals, to identify unsafe conditions and to correct them, to systematically improve fuel tank maintenance),
- (iv) Explain briefly the concepts that are being used: the results of SFAR 88 of the FAA and JAA INT/POL 25/12: modifications, airworthiness limitations items and CDCCL,
- (v) Where relevant information can be found and how to use and interpret this information in the various instructions for continuing airworthiness (aircraft maintenance manuals, component maintenance manuals...),
- (vi) Fuel Tank Safety during maintenance: fuel tank entry and exit procedures, clean working environment, what is meant by configuration control, wire separation, bonding of components etc,
- (i) Flammability reduction systems when installed: reason for their presence, their effects, the hazards of a Flammability Reduction System (FRS) using nitrogen for maintenance, safety precautions in maintenance/working with an FRS,
- (viii) Recording maintenance actions, recording measures and results of inspections.

The training should include a representative number of examples of defects and the associated repairs as required by the TC/STC holders maintenance data.

G) Approval of training

For CAMOs the approval of the initial and continuation training programme and the content of the examination can be achieved by the change of the CAME exposition. The modification of the CAME should be approved as required by M.A. 704(b). The necessary changes to the CAME to meet the content of this decision should be made and implemented at the time requested by the LYCAA.

Appendix XIII to AMC M.A.712(f) Organisational review

Reserved