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|  | AMP incl Reliability Program |  |
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| Based on Regulation (EU) No 1321 /2014* Appendix I to AMC M.A.302 and AMC M.B.301 (b)
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| **Företag:** | **Tillståndsnummer:** |
|  |   |
| **AMP:** | **Rev/utgåva:** |
|   |   |
| **Ärendenummer:** | **Granskad av:** |
|   |   |
| **Granskad mot följande Maintenance Data:** | **Revstatus:** |
|   |   |
| **Beskrivning av utförd granskning (att användas vid mindre förändring av underhållsprogrammet)**  |
|   |
| **Är allt kommande underhåll infört i AMP?** | **Sign eller N/A** |
| JA [ ]  NEJ [ ]  |   |
| **Om Nej i ovanstående punkt** |  |
| [ ]  Det som saknas (begränsningen) ska beskrivas i AMP och även när den senast måste uppdateras. [ ]  En förutsättningen är att inget underhåll som inte är med i det godkända programmet inte överskrids. [ ]  En redogörelse som bevisar föregående punkt.  **OBS1**: Detta kan endast utnyttjas vid start av en operation **och** under en begränsad period. **OBS2**: Detta ska **ej** utnyttjas för att det inte kommer falla ut något jobb under den tid man tänker bruka luftfartyget.  |   |
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| **Subject** | **AMP ref.** | **Remarks, Comments, OK or N/A** |
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| **ETOPS** |  |  |
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| Är operatören/ägaren godkänd att använda flygplanet för ETOPS flygningar. |   | NEJ [ ]  JA [ ]  Ref:  |
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| Kommer flygplanet användas för ETOPS flygningar. |   | NEJ [ ]  JA [ ]  Ref:  |
|  |  |  |
| Är flygplanet godkänt att användas för ETOPS flygningar. |   | NEJ [ ]  JA [ ]  Ref:  |
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| Säkerställs ETOPS kraven i AMP. |   | NEJ [ ]  JA [ ]  Ref:  |
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| Tillägg (vid behov): Verifiering av ETOPS krav använd CCL ETOPS. |   | NEJ [ ]  JA [ ]  Ref:  |
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| Vid behov, kontakta operativ PI. |   | NEJ [ ]  JA [ ]  Ref:  |
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| **RVSM** |
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| Är operatören/ägaren godkänd att använda flygplanet i RVSM luftrum. |   | NEJ [ ]  JA [ ]  Ref:  |
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| Kommer flygplanet användas i RVSM luftrum. |   | NEJ [ ]  JA [ ]  Ref:  |
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| Är flygplanet godkänt att användas i RVSM luftrum. |   | NEJ [ ]  JA [ ]  Ref:  |
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| Säkerställs RVSM kraven i AMP. |   | NEJ [ ]  JA [ ]  Ref:  |
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| Tillägg (vid behov): Verifiering av RVSM krav använd CCL RVSM |   |   |
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|  Vid behov, kontakta operativ PI. |   |   |
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| **Subject** | **AMP ref.** | **Remarks, Comments, OK or N/A** |
| **1. General requirements** |  |  |
| * 1. The maintenance programme should contain the following basic information.
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| 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 aircraftairworthiness. |   |   |
| 1.1.3. The reference, the date of issue and issue number of the approved maintenanceprogramme. |   |   |
| 1.1.4. A statement signed by the owner, operator or CAMO managing the aircraft airworthinessto the effect that the specified aircraft will be maintained to the programme and that theprogramme 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 utilisationshould be stated and include a tolerance of not more than 25%. Where utilisation cannotbe anticipated, calendar time limits should also be included. |   |   |
| 1.1.7. Procedures for the escalation of established check periods, where applicable andacceptable to the competent authority of registry. |   |   |
| 1.1.18. Details of, or cross-reference to, any required reliability programme or statisticalmethods of continuous Surveillance. |   |   |
| 1.1.19. A statement that practices and procedures to satisfy the programme should be to thestandards specified in the TC holder’s Maintenance Instructions. In the case of approvedpractices 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 theprogramme. |   |   |
| **2. Programme basis** | **AMP ref.** | **Remarks, Comments, OK or N/A** |
| 2.1. An owner or a CAMO aircraft maintenance programme should normally be based upon the MRBreport, where applicable, and the TC holder’s maintenance planning document or Chapter 5 ofthe maintenance manual, (i.e. the manufacturer’s recommended maintenance programme).The structure and format of these maintenance recommendations may be re-written by theowner or the CAMO to better suit the operation and control of the particular maintenanceprogramme. |   |   |
| 2.2. For a newly type-certificated aircraft where no previously approved maintenance programmeexists, it will be necessary for the owner or the CAMO to comprehensively appraise themanufacturer’s recommendations (and the MRB report where applicable), together with otherairworthiness information, in order to produce a realistic programme for approval. |   |   |
| 2.3. For existing aircraft types it is permissible for the owner or CAMO to make comparisons withmaintenance programmes previously approved. It should not be assumed that a programmeapproved 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, inparticular, the experience of the owner or the CAMO when assessing an existing programme.Where the competent authority is not satisfied that the proposed maintenance programme canbe used as is, the competent authority should request appropriate changes such as additionalmaintenance 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, maintenanceinstructions should be developed. CDCCL’s are characterised by features in an aircraftinstallation or component that should be retained during modification, change, repair, orscheduled maintenance for the operational life of the aircraft or applicable component or part. |   |   |
| **4. Permitted variations to maintenance periods**The owner or the CAMO may only vary the periods prescribed by the programme with the approvalof the competent authority or through a procedure developed in the maintenance programme andapproved by the competent authority. |   |   |
| **5. Periodic review of maintenance programme contents** | **AMP ref.** | **Remarks, Comments, OK or N/A** |
| 5.1. The owner or the CAMO approved maintenance programmes should be subject to periodicreview to ensure that they reflect current TC holder’s recommendations, revisions to the MRBreport 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 forcontinued validity in the light of operating experience. |   |   |
| **6. Reliability Programmes** |  |  |
| **6.1. Applicability** | **AMP ref.** | **Remarks, Comments, OK or N/A** |
| 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 forall 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 containshard time or on condition items;(b) the aircraft is not a complex motor-powered aircraft according to Part-M;(c) the aircraft maintenance programme provides overhaul time periods for allsignificant system components;(d) Note: for the purpose of this paragraph, a significant system is a system the failureof which could hazard the aircraft safety. |   |   |
| 6.1.3. Notwithstanding paragraphs 6.1.1 and 6.1.2 above, a CAMO may however, develop itsown reliability monitoring programme when it may be deemed beneficial from amaintenance planning point of view. |   |   |
| **6.2. Applicability for CAMO/operator of small fleets of aircraft.** | **AMP ref.** | **Remarks, Comments, OK or N/A** |
| 6.2.1. For the purpose of this paragraph, a small fleet of aircraft is a fleet of less than 6 aircraftof 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 isrecommended that such CAMOs tailor their reliability programmes to suit the size andcomplexity of operation. |   |   |
| 6.2.4. One difficulty with a small fleet of aircraft consists in the amount of available data whichcan be processed: when this amount is too low, the calculation of alert level is verycoarse. Therefore ’alert levels‘ should be used carefully. |   |   |
| 6.2.5. A CAMO of a small fleet of aircraft, when establishing a reliability programme, shouldconsider the following:(a) The programme should focus on areas where a sufficient amount of data is likelyto be processed.(b) When the amount of available data is very limited, the CAMO engineeringjudgement is then a vital element. In the following examples, careful engineeringanalysis should be exercised before taking decisions:— A ‘0’ rate in the statistical calculation may possibly simply reveal that enoughstatistical data is missing, rather that there is no potential problem.— When alert levels are used, a single event may have the figures reach thealert level. Engineering judgement is necessary so as to discriminate anartefact from an actual need for a corrective action.— In making his engineering judgement, a CAMO is encouraged to establishcontact and make comparisons with other CAMOs of the same aircraft,where possible and relevant. Making comparison with data provided by themanufacturer may also be possible. |   |   |
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| 6.2.6. In order to obtain accurate reliability data, it should be recommended to pool data andanalysis with one or more other CAMO(s). Paragraph 6.6 of this paragraph specifies underwhich conditions it is acceptable that CAMOs share reliability data.own reliability monitoring programme when it may be deemed beneficial from amaintenance planning point of view. |   |   |
| 6.2.7. Notwithstanding the above there are cases where the CAMO will be unable to pool datawith other CAMO, e.g. at the introduction to service of a new type. In that case thecompetent authority should impose additional restrictions on the MRB/MPD tasksintervals (e.g. no variations or only minor evolution are possible, and with the competentauthority approval). |   |   |
| **6.3. Engineering judgement** | **AMP ref.** | **Remarks, Comments, OK or N/A** |
| 6.3.1. Engineering judgement is itself inherent to reliability programmes as no interpretation ofdata is possible without judgement. In approving the CAMO maintenance and reliabilityprogrammes, the competent authority is expected to ensure that the organisation whichruns the programme (it may be CAMO, or an Part-145 organisation under contract) hiressufficiently qualified personnel with appropriate engineering experience andunderstanding of reliability concept (see AMC M.A.706). |   |   |
| 6.3.2. It follows that failure to provide appropriately qualified personnel for the reliabilityprogramme may lead the competent authority to reject the approval of the reliabilityprogramme and therefore the aircraft maintenance programme. |   |   |
| **6.4. Contracted maintenance** | **AMP ref.** | **Remarks, Comments, OK or N/A** |
| 6.4.1. Whereas M.A.302 specifies that, the aircraft maintenance programme -which includesthe associated reliability programme-, should be managed and presented by the CAMOto the competent authority, the CAMO may subcontract certain functions to themaintenance organisation under contract, provided this organisation proves to have theappropriate 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 torequest from the competent authority 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 anddocumented. |   |   |
| 6.4.4. The arrangement between the CAMO and the maintenance organisation should bespecified in the maintenance contract (see Appendix XI to AMC M.A.708(c)) and therelevant CAME, and maintenance organisation procedures. |   |   |
| **6.5. Reliability programme** | **AMP ref.** | **Remarks, Comments, OK or N/A** |
| In preparing the programme details, account should be taken of this paragraph. All associatedprocedures should be clearly defined. |  |  |
| **6.5.1. Objectives** | **AMP ref.** | **Remarks, Comments, OK or N/A** |
| 6.5.1.1. A statement should be included summarising as precisely as possible the primeobjectives 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 theprogramme. Its scope could vary from a component defect monitoring system fora small CAMO, to an integrated maintenance management programme for a bigCAMO. The manufacturer’s maintenance planning documents may give guidanceon the objectives and should be consulted in every case. |   |   |
| 6.5.2. Identification of items.The items controlled by the programme should be stated, e.g. by ATA Chapters. Wheresome items (e.g. aircraft structure, engines, APU) are controlled by separateprogrammes, the associated procedures (e.g. individual sampling or life developmentprogrammes, constructor’s structure sampling programmes) should be cross referencedin the programme. |   |   |
| 6.5.3. Terms and definitions.The significant terms and definitions applicable to the Programme should be clearlyidentified. Terms are already defined in MSG-3, Part-145 and Part-M. |   |   |
| **6.5.4. Information sources and collection.** | **AMP ref.** | **Remarks, Comments, OK or N/A** |
| 6.5.4.1. Sources of information should be listed and procedures for the transmission ofinformation from the sources, together with the procedure for collecting andreceiving 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 theProgramme and should be such that it enables both an overall broad basedassessment of the information to be made and also allow for assessments to bemade as to whether any reaction, both to trends and to individual events, isnecessary. The following are examples of the normal prime sources:(a) Pilots Reports.(b) Technical Logs.(c) Aircraft Maintenance Access Terminal / On-board Maintenance Systemreadouts.(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 betaken of continuing airworthiness and safety information promulgated under Part-21. |   |   |
| 6.5.5. Display of information.Collected information may be displayed graphically or in a tabular format or acombination of both. The rules governing any separation or discarding of informationprior to incorporation into these formats should be stated. The format should be suchthat the identification of trends, specific highlights and related events would be readilyapparent. |   |   |
| 6.5.5.1. The above display of information should include provisions for ‘nil returns’ to aidthe examination of the total information. |   |   |
| 6.5.5.2. Where ‘standards’ or ‘alert levels’ are included in the programme, the display ofinformation should be oriented accordingly. |   |   |
| 6.5.6. Examination, analysis and interpretation of the information.The method employed for examining, analysing and interpreting the programmeinformation should be explained. |   |   |
| 6.5.6. Examination, analysis and interpretation of the information.The method employed for examining, analysing and interpreting the programmeinformation should be explained. |   |   |
| 6.5.6.2. Analysis and Interpretation.The procedures for analysis and interpretation of information should be such as toenable the performance of the items controlled by the programme to bemeasured; they should also facilitate recognition, diagnosis and recording ofsignificant problems. The whole process should be such as to enable a criticalassessment 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 allocatedstandards (in the initial period these could be obtained from in-serviceexperience 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 relatedto 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 facilitiesas an information input to the programme, the arrangements for availability andcontinuity of such information should be established and details should beincluded. |   |   |
| **6.5.7. Corrective Actions.** | **AMP ref.** | **Remarks, Comments, OK or N/A** |
| 6.5.7.1. The procedures and time scales both for implementing corrective actions and formonitoring the effects of corrective actions should be fully described. Correctiveactions shall correct any reduction in reliability revealed by the programme andcould take the form of:(a) Changes to maintenance, operational procedures or techniques.(b) Maintenance changes involving inspection frequency and content, functionchecks, overhaul requirements and time limits, which will requireamendment of the scheduled maintenance periods or tasks in the approvedmaintenance programme. This may include escalation or de-escalation oftasks, addition, modification or deletion of tasks.(c) Amendments to approved manuals (e.g. maintenance manual, crewmanual).(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 competent authority’sapproval before implementation. |   |   |
| 6.5.7.2. The procedures for effecting changes to the maintenance programme should bedescribed, and the associated documentation should include a planned completiondate for each corrective action, where applicable. |   |   |
| 6.5.8. Organisational Responsibilities.The organisational structure and the department responsible for the administration ofthe programme should be stated. The chains of responsibility for individuals anddepartments (Engineering, Production, Quality, Operations etc.) in respect of theprogramme, together with the information and functions of any programme controlcommittees (reliability group), should be defined. Participation of the competentauthority should be stated. This information should be contained in the CAME asappropriate. |   |   |
| 6.5.9. Presentation of information to the competent authority.The following information should be submitted to the competent authority for approvalas 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 periodsbetween maintenance (escalation) and for amendments to the approvedmaintenance programme. These reports should contain sufficient detailedinformation to enable the competent authority to make its own evaluation wherenecessary. |   |   |
| 6.5.10. Evaluation and review.Each programme should describe the procedures and individual responsibilities inrespect of continuous monitoring of the effectiveness of the programme as a whole. Thetime periods and the procedures for both routine and non-routine reviews ofmaintenance control should be detailed (progressive, monthly, quarterly, or annualreviews, 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 organisationalresponsibilities for monitoring and revising the ‘standards’ should be specifiedtogether with associated time scales. |   |   |
| 6.5.10.2. Although not exclusive, the following list gives guidance on the criteria to betaken 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 amendmentThe competent authority may authorise the CAMO to implement in the maintenanceprogramme changes arising from the reliability programme results prior to their formalapproval by the authority when satisfied that;(a) the Reliability Programme monitors the content of the Maintenance Programmein a comprehensive manner, and(b) the procedures associated with the functioning of the ‘Reliability Group’ providethe assurance that appropriate control is exercised by the CAMO over the internalvalidation of such changes. |   |   |
| **6.6. Pooling Arrangements.** | **AMP ref.** | **Remarks, Comments, OK or N/A** |
| 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 theanalysis to be valid, the aircraft concerned, mode of operation, and maintenanceprocedures applied should be substantially the same: variations in utilisation betweentwo CAMOs may, more than anything, fundamentally corrupt the analysis. Although notexhaustive, the following list gives guidance on the primary factors which need to betaken into account.(a) Certification factors, such as: aircraft TCDS compliance (variant)/modificationstatus, 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; maintenancestandards applicable; lubrication procedures and programme; MPD revision orescalation applied or maintenance programme applicable |   |   |
| 6.6.2. Although it may not be necessary for all of the foregoing to be completely common, it isnecessary for a substantial amount of commonality to prevail. Decision should be takenby the competent authority on a case by case basis. |   |   |
| 6.6.3. In case of a short term lease agreement (less than 6 month) more flexibility against thepara 6.6.1 criteria may be granted by the competent authority, so as to allow theowner/CAMO to operate the aircraft under the same programme during the leaseagreement effectivity. |   |   |
| 6.6.4. Changes by any one of the CAMO to the above, requires assessment in order that thepooling benefits can be maintained. Where a CAMO wishes to pool data in this way, theapproval of the competent authority should be sought prior to any formal agreementbeing signed between CAMOs. |   |   |
| 6.6.5. Whereas this paragraph 6.6 is intended to address the pooling of data directly betweenCAMOs, it is acceptable that the CAMO participates in a reliability programme managedby the aircraft manufacturer, when the competent authority is satisfied that themanufacturer manages a reliability programme which complies with the intent of thisparagraph. |   |   |