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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:** | |
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| **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. | | |  | |
|  | |  |  | |
| **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: | |
|  | |  |  | |
| 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: | |
|  | |  |  | |
| Tillägg (vid behov): Verifiering av ETOPS krav använd CCL ETOPS. | |  | NEJ  JA  Ref: | |
|  | |  |  | |
| 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. | |  |  | |
| 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 competent authority of registry. | |  |  | |
| 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. | |  |  | |
| **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 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 owner or CAMO 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 the competent authority is not satisfied that the proposed maintenance programme can  be used as is, the competent authority 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. | |  |  | |
| **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 competent authority or through a procedure developed in the maintenance programme and  approved 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 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** | | **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 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 complex motor-powered aircraft according to 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.** | | **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 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 that 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. | |  |  | |
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| 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.own reliability monitoring programme when it may be deemed beneficial from a  maintenance planning point of view. | |  |  | |
| 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  competent authority should impose additional restrictions on the MRB/MPD tasks  intervals (e.g. no variations or only minor evolution are possible, and with the competent  authority 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 of  data is possible without judgement. In approving the CAMO maintenance and reliability  programmes, the competent authority 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 competent authority to reject the approval of the reliability  programme 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 includes  the associated reliability programme-, should be managed and presented by the CAMO  to the competent authority, the CAMO may subcontract certain functions to the  maintenance 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 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 and  documented. | |  |  | |
| 6.4.4. The arrangement between the CAMO and the maintenance organisation should be  specified in the maintenance contract (see Appendix XI to AMC M.A.708(c)) and the  relevant 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 associated  procedures 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 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. | |  |  | |
| 6.5.2. 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, 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 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 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. Examination, analysis and interpretation of the information.  The method employed for examining, analysing and interpreting the programme  information should be explained. | |  |  | |
| 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.** | | **AMP ref.** | **Remarks, Comments, OK or N/A** | |
| 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 competent authority’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 competent  authority should be stated. This information should be contained in the CAME as  appropriate. | |  |  | |
| 6.5.9. Presentation of information to the competent authority.  The following information should be submitted to the competent authority 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 competent authority 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 competent authority 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 CAMO over the internal  validation 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 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 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 the  para 6.6.1 criteria may be granted by the competent authority, so as to allow the  owner/CAMO 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 competent authority 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 competent authority is satisfied that the  manufacturer manages a reliability programme which complies with the intent of this  paragraph. | |  |  | |