

PERATURAN DIREKTUR JENDERAL PERHUBUNGAN UDARA

NOMOR : KP 128 TAHUN 2016

TENTANG

PETUNJUK TEKNIS BAGIAN 8900 – 3.328

(*STAFF INSTRUCTION 8900 – 3.328*)

EVALUASI TERHADAP MANUAL PERAWATAN PESAWAT UDARA

(*EVALUATE COMPANY MAINTENANCE MANUAL (CMM)*)

DENGAN RAHMAT TUHAN YANG MAHA ESA

DIREKTUR JENDERAL PERHUBUNGAN UDARA,

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- Menimbang : a. bahwa dalam Peraturan Menteri Perhubungan Nomor PM 28 Tahun 2013 tentang Peraturan Keselamatan Penerbangan Sipil Bagian 121 (*Civil Aviation Safety Regulation Part 121*) Tentang Persyaratan-Persyaratan Sertifikasi Dan Operasi Bagi Perusahaan Angkutan Udara Yang Melakukan Penerbangan Dalam Negeri, Internasional Dan Angkutan Udara Niaga Tidak Berjadwal (*Certification And Operating Requirements: Domestic, Flag, And Supplemental Air Carriers*) sebagaimana telah diubah terakhir dengan Peraturan Menteri Perhubungan Nomor PM 107 Tahun 2015 dan Keputusan Menteri Perhubungan Nomor KM 18 Tahun 2002 tentang Persyaratan-Persyaratan Sertifikasi Dan Operasi Bagi Perusahaan Angkutan Udara Niaga Untuk Penerbangan Komuter dan Charter sebagaimana telah beberapa kali diubah, terakhir dengan Peraturan Menteri Perhubungan Nomor PM 152 Tahun 2015, telah mengatur ketentuan mengenai Manual Perawatan Pesawat Udara (*Company Maintenance Manual (CMM)*);
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- b. bahwa diperlukan petunjuk teknis bagi Inspektur Penerbangan di Direktorat Kelaikudaraan dan Pengoperasian Pesawat Udara untuk memeriksa dan mengkaji Manual Perawatan Pesawat Udara (*Company Maintenance Manual (CMM)*) sesuai dengan persyaratan sertifikasi dan operasi AOC 121 dan AOC 135;
- c. bahwa berdasarkan pertimbangan sebagaimana dimaksud pada huruf a dan huruf b, perlu menetapkan Peraturan Direktur Jenderal Perhubungan Udara tentang Petunjuk Teknis Bagian 8900 – 3.328 (*Staff Instruction 8900 – 3.328*) Evaluasi Terhadap Manual Perawatan Pesawat Udara (*Evaluate Company Maintenance Manual (CMM)*);

- Mengingat :
- 1. Undang-Undang Nomor 1 Tahun 2009 tentang Penerbangan (Lembaran Negara Republik Indonesia Tahun 2009 Nomor 1, Tambahan Lembaran Negara Republik Indonesia Nomor 4956);
 - 2. Peraturan Presiden Nomor 7 Tahun 2015 tentang Organisasi Kementerian Negara (Lembaran Negara Republik Indonesia Tahun 2015 Nomor 8);
 - 3. Peraturan Presiden Nomor 40 Tahun 2015 tentang Kementerian Perhubungan (Lembaran Negara Republik Indonesia Tahun 2015 Nomor 75);
 - 4. Keputusan Menteri Perhubungan Nomor KM 18 Tahun 2002 tentang Persyaratan-Persyaratan Sertifikasi Dan Operasi Bagi Perusahaan Angkutan Udara Niaga Untuk Penerbangan Komuter dan Charter sebagaimana telah beberapa kali diubah, terakhir dengan Peraturan Menteri Perhubungan Nomor PM 152 Tahun 2015;

5. Peraturan Menteri Perhubungan Nomor PM 28 Tahun 2013 tentang Peraturan Keselamatan Penerbangan Sipil Bagian 121 (*Civil Aviation Safety Regulation Part 121*) Tentang Persyaratan-Persyaratan Sertifikasi Dan Operasi Bagi Perusahaan Angkutan Udara Yang Melakukan Penerbangan Dalam Negeri, Internasional Dan Angkutan Udara Niaga Tidak Berjadwal (*Certification And Operating Requirements: Domestic, Flag, And Supplemental Air Carriers*) sebagaimana telah diubah terakhir dengan Peraturan Menteri Perhubungan Nomor PM 107 Tahun 2015;
6. Peraturan Menteri Perhubungan Nomor PM 59 Tahun 2015 tentang Kriteria, Tugas dan Wewenang Inspektur Penerbangan;
7. Peraturan Menteri Perhubungan Nomor PM 189 Tahun 2015 tentang Organisasi dan Tata Kerja Kementerian Perhubungan;

MEMUTUSKAN

Menetapkan : PERATURAN DIREKTUR JENDERAL PERHUBUNGAN UDARA TENTANG PETUNJUK TEKNIS BAGIAN 8900 – 3.328 (*STAFF INSTRUCTION 8900 - 3.328*) EVALUASI TERHADAP MANUAL PERAWATAN PESAWAT UDARA (*EVALUATE COMPANY MAINTENANCE MANUAL (CMM)*).

Pasal 1

Memberlakukan Petunjuk Teknis Bagian 8900 – 3.328 (*Staff Instruction 8900 – 3.328*) Evaluasi Terhadap Manual Perawatan Pesawat Udara (*Evaluate Company Maintenance Manual (CMM)*), sebagaimana tercantum dalam Lampiran yang merupakan bagian tak terpisahkan dari Peraturan ini.

Pasal 2

Petunjuk Teknis sebagaimana dimaksud dalam Pasal 1 mengatur panduan bagi Inspektur Penerbangan di Direktorat Kelaikudaraan dan Pengoperasian Pesawat Udara dalam memeriksa dan mengkaji Manual Perawatan Pesawat Udara (*Company Maintenance Manual (CMM)*) sesuai dengan persyaratan sertifikasi dan operasi AOC 121 dan AOC 135.

Pasal 3

Pada saat Peraturan ini mulai berlaku, Ketentuan Bab 63 Volume 2 pada Lampiran Peraturan Direktur Jenderal Perhubungan Udara Nomor: SKEP/44/III/2010 tentang SI 8300 *Airworthiness Inspector's Handbook*, dicabut dan dinyatakan tidak berlaku.

Pasal 4

Direktur Kelaikudaraan dan Pengoperasian Pesawat Udara mengawasi pelaksanaan Peraturan ini.

Pasal 5

Peraturan ini mulai berlaku sejak tanggal ditetapkan.

Ditetapkan di JAKARTA

Pada tanggal : 8 APRIL 2016

DIREKTUR JENDERAL PERHUBUNGAN UDARA

ttd.

SUPRASETYO



Sesuai dengan aslinya
KEPALA BAGIAN HUKUM,
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LAMPIRAN PERATURAN DIREKTUR JENDERAL PERHUBUNGAN UDARA
NOMOR : KP 128 TAHUN 2016
TANGGAL : 8 APRIL 2016

Staff Instruction

-) **SI 8900-3.328**
Evaluate Company Maintenance Manual
(CMM)
-)

Amendment : 0
Date : April 2016

REPUBLIC OF INDONESIA – MINISTRY OF TRANSPORTATION
DIRECTORATE GENERAL OF CIVIL AVIATION
JAKARTA – INDONESIA

AMENDMENT RECORD LIST

Amendment No.	Issue Date	Inserted By	Insertion Date
Original issue	APRIL 2016		

SUMMARY OF AMENDMENTS

Amendment No.	Source/s	Subject/s	Approved
Original			

FOREWORD

1. **PURPOSE** : This Staff Instruction prescribes responsibilities, policies, and procedures to be used by the Directorate General of Civil Aviation (DAAO) for evaluating an Company Maintenance Manual in accordance with CASR Part 121 and 135

This Staff Instruction may be made available to the public so that they may better understand the authority and responsibility of the DAAO.

2. **REFERENCES** : This Staff Instruction should be used in accordance with the applicable regulations.

3. **CANCELLATION** : Chapters 63 of SI 8300 Volume 2, Revision 4, dated 25 March 2010 is canceled

4. **AMENDMENT** : The amendment of this Staff Instruction shall be approved by the Director General of Civil Aviation.

DIREKTUR JENDERAL PERHUBUNGAN UDARA

ttd.

SUPRASETYO



Salinan sesuai dengan aslinya
KEPADA BAGIAN HUKUM,

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CHAPTER I. INTRODUCTION

1. OBJECTIVE

This Staff Instruction directs and guides Principal Maintenance Inspector (PMI) / Airworthiness Inspectors on how to process, review, and accept Company Maintenance Manuals (CMM) for CASR Part 121 and 135, as applicable.

2. OVERVIEW OF MANUAL REQUIREMENTS

Requirements of the Operator. CASR requires operators to prepare and keep current Company Maintenance Manuals (CMM) that ground personnel can use as direction and guidance when they conduct maintenance.

3. DEFINITIONS

The following terms are defined according to their use in this order:

Abbreviated Procedure. A list of sequential procedural steps without an amplified description or amplified set of instructions.

ACL. Authorization, Conditions and Limitation.

Amplified Procedure. A description of sequential procedural steps with detailed explanatory descriptions and/or instructions accompanying each step.

Caution. An instruction concerning a hazard that, if ignored, could result in damage to an aircraft component or system that would make it improbable to continue flying safely. The term also applies to significant information or instruction that requires special emphasis.

Checklist. A formal list used to identify, schedule, compare, or verify a group of elements or actions. Although a checklist may be published in a manual, it is not intended to be used in conjunction with that manual. Checklists are usually formatted and presented on paper; however, they may be formatted on electronic or mechanical devices, or presented in an audio format. A checklist may or may not represent an abbreviated procedure. The items listed on a checklist may be unrelated and may not represent a procedure.

CMM. Company Maintenance Manual

Immediate Action. An action that must be taken in response to a non routine event so quickly that referencing a checklist is not practical. An event such as a loss of engine oil pressure would require flight crew members to immediately shutdown the affected engine.

Manual. A collection of the information, policies, procedures, and guidance prepared by an operator to instruct company employees in the performance of their assigned duties.

Policy. A written requirement established by an operator's management that appropriate employee personnel are expected to comply with. A policy may be within a procedure or stated separately. A written requirement such as "No flight may depart on a cross-country flight without a spare case of oil" is an example of a policy.

Procedure. A logical progression of actions and/or decisions in a fixed sequence that an operator prescribes to achieve a specified objective. In short, a procedure is step-by-step guidance on how to do something.

Recommendation. A preferred technique or action described by the operator that employees are expected to follow whenever practical. A recommendation is not a policy requirement.

Technique. A method of accomplishing a procedural step or maneuver.

Warning. An instruction about a hazard that, if ignored, could result in injury, loss of aircraft control, or loss of life.

4. DISTRIBUTIONS AND AVAILABILITY OF MANUALS

Each operator must maintain a Company Maintenance Manuals (CMM) at its principal base of maintenance and must furnish a copy to the Directorate General of Civil Aviation (DGCA). In addition, each operator must make available or furnish applicable parts of the Company Maintenance Manuals (CMM) to users (i.e., flight, ground, and maintenance personnel who conduct or support flight operations and maintenance). The CMM may be in conventional paper format or in another form that is convenient for the user. The operator must also make sure to keep the CMM current. Each user must have access to CMM or parts of CMM when performing assigned duties. CASR Part 121 requires that each part 121 supplemental air carrier and commercial operator carry appropriate parts of the manual on each aircraft when away from the principal base of operation to enable their use.

5. REVIEW OF MANUALS

Objective and Role of the Airworthiness Inspector. Airworthiness Inspector must review CMM to ensure that they contain adequate content and comply with applicable regulations, safe operating practices, and the operator's operations specifications (OpSpecs) and ACL. While Airworthiness Inspector are encouraged to provide guidance and advice to operators in the preparation of their CMM, the operator is solely responsible for developing and producing an acceptable CMM.

Areas of Consideration. Airworthiness Inspector must consider all applicable portions of the manual when they conduct a review. The Company Maintenance Manual (CMM) and Continuous Airworthiness Maintenance Program (CAMP) have maintenance information that requires reviewing. Airworthiness Inspector should review sections of manuals that include airworthiness determinations, forms, and maintenance away from the home base procedures. It is important that similar procedures in different manuals do not contradict each other or negatively impact safety of flight issues.

Initial Review. Before part 121 or 135 air carriers are initially certificated, Airworthiness Inspector must review their flight manuals and CMM. During the initial review of the CMM, Airworthiness Inspector must ensure that the operator has addressed all of the applicable subjects. Manuals must present each subject with enough detail to ensure that personnel can properly carry out the policy or procedure for which they are responsible.

Review of Changes to Manuals. Airworthiness Inspector should review each revision or proposed revision to a CMM. They should not limit this review to a strict consideration of the change itself, but should also consider the impact of the change on the operator's overall manual system, training program, and type of operation. The Airworthiness Inspector should also review applicable sections of the CMM when there are changes in the operator's OpSpecs and ACL.

Periodic Review of Manuals. Periodically reviewing an operator's CMM is necessary because both the aviation environment and the maintenance conducted by the operator are constantly changing. The DGCA is responsible for developing a surveillance plan for the operator's manual system based on risk analysis. Principal Maintenance Inspectors (PMI) and other assigned Airworthiness Inspector should coordinate periodic reviews with each other to avoid redundant reviews.

6. FORMAT AND STYLE OF MANUALS

In general, the design of the manual shall observe Human Factors principles, the manuals and checklists should be easy to use and understand, and in a format that can be easily revised. When evaluating manuals and checklists for ease of use and understanding, Airworthiness Inspector should consider the following guidance concerning format and style.

Form. An operator may prepare all or part of a manual and maintain it in conventional paper format (book form) or in other forms, such as computer-based storage with electronic image.

Preface Page. The first page of a CMM can be a preface page containing a brief statement about the manual's purpose and intended user. The preface page may also contain a statement that emphasizes that all company and contracted personnel are to follow the procedures and policies in the CMM. That statement of compliance signed declaration by the chief executive.

Revision Control. The manual should be easy to revise. In addition, each manual should contain a revision control page or section from which the user can readily determine whether the manual is current.

Revision Control Page. This page or section may preferably follow the preface page, but it can be organized in any logical manner. CMM must have the date of last revision on each page concerned.

Bulletin System. Complex operators may establish a bulletin system to notify users of any temporary information or changes that a formal revision process should not delay. The bulletin system should have a way to give bulletins a limited life and systematically incorporate them into appropriate manuals in a timely manner. Users should be able to easily determine whether they possess all current bulletins.

Table of Contents. Each manual may have a table of contents containing lists of major topics with their respective page numbers

References. Manuals may include references to specific regulations when appropriate. A reference to regulations or other manual material may be appropriate when it is necessary to clarify the intent of the text or when it is useful to the user for looking up specific subject matter. Operators should use caution when adapting the text of advisory documents into their manuals since advisory text may not translate into a directive context.

Definitions. Significant terms used in manuals can be defined. Any acronym or abbreviation not in common use may also be defined.

Elements of Style. Manuals and checklists can use the style of general technical writing. This style should be clear, concise, and easy to understand. When evaluating manuals, Airworthiness Inspector should know the following suggestions for accomplishing clarity in technical writing:

Whenever possible, manuals can use short, common words. Examples of this include: using the words "keep" or "hold" instead of "maintain;" using the word "start" instead of "establish;" and using the word "stop" instead of "terminate."

When a word has more than one meaning, manuals should use the most common meaning. For example, manuals should use the word "observe" to mean "see and take notice of" rather than "obey and comply."

Standardize terminology that appears throughout the manual. The manual should not use a particular term one way and then use it again in another way.

Terms that command actions may be clearly defined, such as “checked,” “set,” and “as required.” Since auxiliary verbs such as “may” and “should” are ambiguous and can create room for doubt, the manual should not use them when commanding a definite action. Instead, use the verb “must” when commanding an action.

To emphasize specific notes in the text, cautions, warnings, and notes should be in the operator’s manuals and checklists.

Any instruction, particularly a warning or a caution, may begin with a simple directive in the imperative tense (i.e., the verb used for commands) that informs the reader of precisely what he or she must do. To avoid obscuring the directive in the background information, it must be stated first and an explanation must follow. An example of how background information can obscure a directive is as follows: “Warning—To avoid the hazard of striking ground handling personnel with the free end of a swinging tow bar, do not place feet on rudder pedals until the captain takes the salute from the ground handler. The hydraulic nose wheel steering can sling the tow bar with hazardous force.” In contrast, the following is an example of the preferred method of placing the directive first: “Warning—Do not place feet on rudder pedals until the captain takes the salute from the ground handler. The hydraulic nose wheel steering can sling a tow bar with sufficient force to cause serious injury to ground handling personnel.”

One should not overload descriptions in the manual, but may present them simply and sequentially. An example of an overloaded description is as follows: “An engine drives the alternating current (AC) generator at a constant speed of 8,000 revolutions per minute (rpm) regardless of the speed of the engine or the load on the generator.” The following is an example of a clearer, more concise description: “A constant speed drive (CSD) is mounted between each engine and generator. The CSD holds the generator speed at a constant 8,000 rpm.”

Avoid long sentences in the manual. The following example consists of subject matter put into a long sentence, which makes it difficult to understand: “During gear retraction, the door-operating bar located on the landing gear leg contacts and turns the latch, withdrawing the roller from the slot as a second roller entraps the door-operating bar.” The following example consists of the same subject matter used in the previous example; however, when it is broken down into shorter sentences, it is easier to understand. “During landing gear retraction, the door-operating bar on the landing gear leg is pressed against the door latch. The latch turns, thus freeing the door roller. The roller moves out of the slot. A second roller then traps and holds the door-operating bar.”

7. ADEQUACY OF PROCEDURES

Objective Statement. The objective of a procedure may be stated clearly. However, this is not necessary if the objective is commonly understood.

Logical Sequence. Procedures are to flow in a logical and sequential step-by-step format rather than in a narrative format. The most effective procedures are usually simple and each contains only the information necessary for accomplishing that procedure.

General Considerations. Airworthiness Inspector should also consider the following items when reviewing procedures in a manual:

A procedure may be an acceptable method for accomplishing an intended objective.

Each step of a procedure may clearly identify the individual responsible.

The acceptable standards of performance for a procedure are to be stated if those standards are not commonly understood or obvious.

Since procedures involve a variety of users with differing degrees of expertise, a manual may provide adequate information concerning the accomplishment of a procedure for the least experienced user. A procedure may be described very briefly and concisely when the user can achieve the objective without extensive direction or detail. But when the user has limited training or experience, a procedure can be described in enough detail for the user to correctly accomplish it. When the user has limited access to other sources of information and guidance while performing a procedure, the manual should provide enough detail so that he or she does not have to rely on other sources of information.

When a form, checklist, or tool is necessary to accomplish a procedure, the procedure may indicate location of that item.

8. GENERAL PROCESS FOR APPROVAL OR ACCEPTANCE

The general process of approval or acceptance of certain programs, documents, procedures, methods, or systems is an orderly method used by DGCA to ensure that such items meet regulatory standards and provide for safe operating practices. It is important for an inspector to understand that the approval or acceptance process is not all-inclusive, but rather a tool to use with good judgment in conducting day-to-day duties and responsibilities.

Indicating Approval. DGCA grants approval by letter, by a stamp of approval, or by some other official means of conveying approval.

Acceptance. Other proposals, submissions, or requests not requiring specific DGCA approval but required to be submitted to the DGCA are items that are presented for acceptance. The inspector may accomplish acceptance of an operator's proposal by various means including a letter, verbal acceptance, or by taking no action, which indicates there is no DGCA objection to the proposal.

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CHAPTER II
EVALUATE COMPANY MAINTENANCE MANUAL/REVISION
FOR CASR PART 121/135

1. OBJECTIVE

This chapter provides guidance for evaluating an operator/applicant's Company Maintenance Manual or revision for CASR Part 121/135 to ensure that policies, procedures, and technical criteria meet regulatory requirements. CASR 121.369 and CASR Part 135.369 require that each operator prepare and keep current Company Maintenance Manual, which the Directorate General of Civil Aviation (DGCA) requires to contain guidance for ground and management personnel during the conduct of the operator's maintenance.

2. GENERAL

- a. **Company Maintenance Manual.** A Company Maintenance Manual should enable the operator's maintenance and servicing personnel to carry out their duties at a high level of safety. The complexity of the CMM will vary with the complexity of the operation. The CMM must cover specific items in accordance with CASR, but may include additional items at the discretion of the applicant. Therefore, the Directorate General of Civil Aviation (DGCA) accepts, rather than approves, a manual.
- b. **Required Contents.** Sections CASR 121.369 and CASR 135.369 specify topics that must be addressed in an operator's CMM. The operator's CMM must contain the duties and responsibilities for each category of employee. This manual must also provide sufficient policy, direction, and guidance to its employees for the safe and efficient performance of their duties. In addition, an operator's CMM must address the policies, systems, and procedures necessary to comply with maintenance ACL provisions and safe operating practices. This section contains discussions of selected topics that PMIs should look for when evaluating an operator's CMM, and which may be required by the operator's initial and final compliance statements.
- c. **Manual Acceptance.** Manual acceptance can cause a delay in the certification process. If the operator/applicant does not have experienced and qualified personnel to prepare an acceptable manual, the use of a consultant may be appropriate. The operator/applicant can only use a consultant in an advisory position. After the review, the DGCA must return the manual to the operator/applicant with a list of any discrepancies found. The DGCA must inform the operator/applicant that final certification will not be complete until the operator/applicant corrects the discrepancies. Inspectors should be concerned primarily with ensuring regulatory compliance.

3. REVIEWING OPERATOR/APPLICANT'S CMM

- a. **The CMM as an Administrative Tool.** The CMM is an administrative tool used to control and direct personnel. It should define all aspects of the maintenance operation.
 - i. The policies and procedures section should address organizational matters.
 - ii. The maintenance section should address policies and procedures for administering the inspection and maintenance requirements, test flight requirements, and other subjects, as applicable.
- b. **What the CMM Should Include.** The CMM should include detailed instructions or specific references for accomplishing inspection and maintenance functions. It should also include forms, instructions, and references for recurring nonroutine requirements, such as engine changes and inspections following abnormal occurrences (hard landings, lightning strikes, severe turbulence, high brake energy stops, etc.).
- c. **What Manufacturers' Technical Manuals Provide.** Manufacturers' technical manuals provide instructions for accomplishing specific tasks. These documents also establish methods, technical standards, measurements, and operational test procedures. The policy and procedures section of the operator's manual should describe areas of application for the pertinent technical documents.
- d. **CMM Revision Requirements.** CMM must be easy to revise and must show the date of the last revision on each page. The CMM must have a page control system showing the number of pages, including the latest revision. The page control system is usually a List of Effective Pages (LEP).
- e. **Operator/Applicant Responsibilities.** The operator/applicant is responsible for ensuring that CMM present adequate guidance to meet all regulatory requirements. The operator/applicant must understand and accept this responsibility early in the certification process.
- f. **DGCA Revision Requests.** A DGCA may, when necessary, formally request revision to any part of the CMM when such revision is in the interest of safety, or when the CMM does not meet regulatory requirements. The DGCA should only use this authority when:
 - i. Safety considerations or CASR requirements adequately substantiate the need for revisions; and
 - ii. When informal discussions with the operator fail to accomplish the necessary revision.

4. **COORDINATION REQUIREMENTS.** This task requires close coordination between Airworthiness Inspector and, in some areas, Operations Inspector.
5. **PROCEDURES.**
 - a. **Brief Operator/Applicant.** Provide the operator/applicant with policies and regulatory requirements. Schedule and conduct a preliminary meeting, if necessary.
 - b. **Review Schedule of Events (SOE).** If this task is part of an original certification, review the SOE to ensure that the operator/applicant can accomplish the task according to the schedule.
 - c. **Evaluate General Requirements.** Ensure that the operator/applicant's CMM describes procedures, levels of authority, and information appropriate to CASR Part 121 or 135, as applicable.
 - i. The manual must include a description introducing its philosophy and goals. If it is in more than one volume, the manual must describe the division of contents between the volumes. The manual must also contain a list of effective dates.
 - ii. Manual revision and distribution procedures for providing current information to all manual holders are required. The manual must include provisions to make it available to maintenance and ground personnel and to furnish a copy to the DGCA .
 - iii. The manual must define significant terms, acronyms, or abbreviations unique to the manual. The manual does not need to define common industry terms, as long as it intends the common meaning. The manual's definitions section also does not need to include terms clearly defined in the text.
 - iv. The manual must detail requirements for supplemental air carriers and commercial operators to carry the appropriate parts of the manual on the aircraft, if applicable. If manuals are in electronic form, there must be procedures to ensure there is adequate equipment aboard the aircraft.
 - d. **Ensure that the CMM Contains Required Organizational Elements.** Check for the following:
 - i. The names of all management personnel act on behalf of the operator/applicant.

The CMM must list the names of the individuals filling required management positions. An acceptable way for the operator to meet this requirement is to include a copy of its OpSpecs & ACL in the manual.

The DGCA may approve management structures and titles different from those specified by CASR 121.59 and CASR 135.43 by granting a deviation to these regulations. When the DGCA grants such a deviation, it must be listed in ACL A005 along with the names and titles of the approved management positions listed in ACL A006.

- ii. Organizational charts that must include lines of authority, and maintenance organization and support structures.

The CMM must contain a description of the operator's management structure as it pertains to the Continuous Airworthiness Maintenance Program (CAMP) and its responsibility for the airworthiness of its aircraft. Organizational entities, Areas of Responsibility (AOR), and titles of key management positions must all be identified in the management structure. This description should contain information on how the maintenance management structure interfaces with the quality management structure and the responsibilities of both. Organizational charts and diagrams may also be useful in showing the relationship between operational units within the company.

A chart or description of the certificate holder's organization required by CASR 121/135.365, and a list of persons with whom it has arranged for the performance of any of its required inspections and other maintenance, preventive maintenance, or alterations, including a general description of that work.

- iii. Job descriptions for all elements noted above.

- iv. Procedures for, and a description of, a training program that:

- Informs all personnel, including inspection personnel, of procedures and techniques currently in use;
- Ensures that all personnel are competent to perform their duties; and
- Establishes a method of documenting and retaining training records.

- e. **Ensure that the CMM Contains Compliance Procedures.** Check for the following:

- i. **Statement of Compliance.** Declaration by the chief executive confirming that the CMM and any other documents referenced are in compliance with CASR

- ii. Procedures to ensure compliance with aircraft W&B limitations, including:

- Preweighing and weighing requirements;

- Necessary equipment;
- Standards; and
- Forms and documents.

Review Manual for Weight and Balance (W&B) Procedures. When evaluating an operator's CMM, PMIs or Airworthiness Inspector shall ensure that an operator's W&B procedures are included in the operator's manual system. If the operator elects to place the W&B system program in the CMM, that portion of the manual must be the "Procedures" portion. Each type of airplane used by the operator may require a separate DGCA approval. The PMI or Airworthiness Inspector shall verify that the following guidelines are met:

- **Placement of W&B Procedure.** It may be appropriate for the operator to place the W&B procedure to be used by flight crews in the Flight crew Operating Manual (FCOM) and the procedures to be used by personnel other than flight crews, such as maintenance personnel, in sections of the CMM. If the operator develops a single W&B procedure for all aircraft operated, it may be appropriate for the operator to place the procedure to be used by flight crews and other maintenance personnel in the CMM. Operators may develop their own W&B procedures or use the procedures furnished by aircraft manufacturers. PMIs or Airworthiness Inspector should recommend to the operator the current editions of:

Advisory Circular (AC) 43.13-2A, Acceptable Methods, Techniques, and Practices—Aircraft Alterations;

- **Approval of W&B Procedures.** Approval is granted in ACL E096. Reference to the ACL may be made in the CMM; however, the reference may not be used instead of a detailed description of the procedures to be used by ground maintenance, ground handling, and flight crew personnel. PMIs or Airworthiness Inspector must ensure that the information and guidance in the operator's CMM is consistent. The W&B procedures described in the operator's manuals should normally address the following topics:

- Procedures for complying with W&B limitations for each type of aircraft;
- For part 135/121 operators, procedures for ensuring that the empty weight and center of gravity (CG) of each aircraft is determined by actually weighing the aircraft within the preceding 36 months;
- Procedures for determining the weight of passengers, crew, cargo, and baggage;

- Procedures for making the CG calculations, including loading schedules or other approved methods, if applicable;
 - Procedures for the completion and disposition of load manifests and W&B records; and
 - Procedures for loading the aircraft.
- iii. Procedures, policies, instructions, and controls for the use of the minimum equipment list (MEL) and Configuration Deviation List (CDL), if applicable.
- iv. Procedures, standards, and limits for periodic inspection and calibration of precision tools, measuring devices, and test equipment.
- v. When evaluating an operator's CMM, PMIs or Airworthiness Inspector must ensure that an operator's maintenance control procedures are included. Other areas should be explained as well, such as the duties and responsibilities of the maintenance control supervisor. The CMM should also explain the relationship between maintenance control and operations dispatch. It should further explain that only a licensed dispatcher could dispatch an aircraft. When training and operational control requirements for operational control personnel are not contained in a training and qualification document, they must be listed in the CMM. The PMI or Airworthiness Inspector must ensure that the following requirements are met:
- A. **Part 121 Domestic and Flag Operations.** The description of the operational control system used by part 121 operators conducting domestic and flag operations must be comprehensive. The interrelation of flight dispatch, crew scheduling, and maintenance (airworthiness) control must be outlined in detail. When evaluating an operator's CMM, PMIs or Airworthiness Inspector shall ensure that maintenance-planning procedures are included. The direction and guidance for maintenance planning must be comprehensive and address the responsibilities of both maintenance control and quality control (QC).
- B. **Policies, Procedures, and Guidance.** Inspectors must ensure that an operator's CMM contains the policies, procedures, and guidance to be used by the personnel who support the operator's maintenance efforts at the outlying line station level. This manual material must include those situations in which the operator maintains line stations, as well as situations in which the operator contracts for or purchases line station support. This type of material is usually located throughout various user manuals, such as ground station and maintenance manuals, facilities and equipment (F&E) manuals, fueling manuals, and other special types of manuals. An operator may format and organize this type of manual material in a

manner that is most consistent and usable for the operator's kind and type of operation. Regardless of the format and organization, however, this type of manual information is considered to be CMM material. The following are examples of the types of information that should be addressed in manual material concerning line station maintenance:

- a). Duties and Responsibilities. The CMM, as appropriate, must contain an outline of the duties and responsibilities of line station supervisory personnel. The types of positions that should be addressed include the following: ground station maintenance personnel, and aircraft servicing personnel (when not addressed in the COM). When an operator contracts for or purchases line station support, the CMM, as appropriate, must detail the procedures to be used by the personnel providing the support.
- b) Servicing and Ramp Maintenance. The CMM must contain detailed safety procedures and guidance on servicing and maintaining aircraft during line station maintenance. These manuals should also contain instructions on the maintenance and use of ramp areas. The following are examples of procedures for aircraft servicing and ramp maintenance that should be addressed in the CMM:
- Procedures for the safety and protection of personnel working on the ramp;
 - Procedures for fueling aircraft with or without passengers onboard, including any requirements for crewmembers to be onboard during fueling, or prohibitions against positioning fuel trucks next to open exits with passengers onboard;
 - Procedures for operating ground equipment, including the capabilities and limitations of the equipment, and the training and qualification of persons using the equipment;
 - Procedures and guidance for properly locating and stowing ground equipment;
 - Procedures for the operation of aircraft cargo doors, baggage and cargo loading, and closing and checking the security of doors;
 - Procedures for foreign object damage (FOD) control and periodically inspecting ramp areas;
 - Procedures to be used during adverse weather conditions, such as thunderstorms, high winds, or low visibility; and
 - Procedures for the inspection and removal of frost, ice, snow, or standing water.

- f. **Evaluate CMM Contents.** The certificate holder's Company Maintenance Manual must describe procedures and provide information appropriate to the applicable CASR parts.
- i. **Layout and presentation** (refer to CASR 121.369(b) and 135.369(c)).
 - a. To include table of contents, sections, description and paragraphing and page numbers for easy referencing.
 - b. References to the appropriate forms to be used. The manual should define any terms contained in the manual that are unique to the operator's operation.
 - ii. **Description of Air Operator** (refer to CASR 121.369(f)(3) and 135.369(g)(3)).
 - a. The legal (registered) name of the operator and trading name (if any).
 - b. The full address, phone number(s), email and facsimile number(s).
 - c. A description of the organization; its size, type and nature of business and type and number of aircraft to be operated.
 - iii. **Statement of Compliance** (refer to CASR 121.369(a) and 135.369(b))

Declaration by the chief executive confirming that the CMM and any other documents referenced are in compliance with CASR.
 - iv. **Revision and Distribution Control** (refer to CASR 121.369(c), 135.369(d)), 121.369(d), 135.369(e), 121.369(e) and 135.369(f)).
 - a. The certificate holder shall ensure that the Company Maintenance Manual is amended as necessary to keep the information contained therein up to date.
 - b. The certificate holder's manual must describe the revision control procedures and how it will control the distribution of manuals.
 - c. Manuals must be easy to revise and have a page control system that shows the number of pages and ensures that the manual includes the latest revision. The page control system is usually an LEP. List of Effective Pages (LEP) must contain the following:
 - the operator name,
 - date of each page and revision number,
 - CMM revision number, and
 - signature block containing space for signature of the operator and the Airworthiness Inspector
 - d. Details the process of revising the CMM.

- e. The approval and control and distribution of a revision to the CMM.
 - f. Description of how the CMM should be made available to each person who performs or manages a function that is described in the CMM or in any manual that is incorporated in the CMM. All copies of the CMM are serialized with a corresponding distribution list.
 - g. Record of revision.
 - h. The certificate holder shall provide the DGCA with a copy of the Company Maintenance Manual, together with all amendments and/or revisions to it and shall incorporate in it such mandatory material as the DGCA may require.
- v. **Key Roles And Responsibilities** (refer to CASR 121.369(f)(4), 135.369(g)(4)),
- a. The names and titles of key persons assigned responsibilities.
 - b. The CMM must include the duties and responsibilities of each key person and appropriate members of the ground organization personnel.
 - c. A company organization chart showing to whom each employee reports. The organizational chart must describe, at a minimum, the management personnel and major functions. However, the DGCA recommends that the chart cover the operator's entire organization.
 - d. The maintenance organization chart showing separate of other maintenance and inspection function.
- vi. **Approved Maintenance Program** (refer to CASR 121.369(f)(5) and 135.369(g)(5)).

The CMM is required to include programs that personnel must follow while performing maintenance, preventive maintenance, and alterations of each the certificate holder's aircraft type, including airframes, aircraft engines, propellers, rotors, appliances, and emergency equipment.

The program must ensure the following:

- a. The certificate holder's personnel perform maintenance, preventive maintenance, and alterations in accordance with the certificate holder's manual.
- b. The certificate holder provides competent personnel, adequate facilities, and equipment for accomplishing maintenance, preventive maintenance, and alterations.

- c. The certificate holder's personnel have properly maintained each aircraft released to service and ensured that it is Airworthy.

These programs must include at least the following:

- a. A method for performing routine and nonroutine maintenance (other than required inspections), preventive maintenance, and alterations including maintenance tasks and the interval at which these are to be performed, taking into account the anticipated utilization of the aeroplane or aircraft (refer to CASR 121.367(a) and 135.367(a)).
- b. When applicable, a continuing structural integrity programme (refer to CASR 121.367(a) and 135.367(a)).
- c. When applicable, condition monitoring and reliability programme descriptions for aircraft systems, components, and engines (refer to CASR 121.367(a) and 135.367(a)).
- d. Instructions and procedures for maintenance, preventive maintenance, and servicing (refer to CASR 121.133(b)).
- e. Instructions and procedures for maintenance personnel to follow if confronted with errors or deficiencies in documented maintenance procedures (maintenance manual, work cards, etc.), especially while performing maintenance that requires immediate corrective action to ensure safe practices and Airworthy aircraft. The procedures must include instructions for documenting the error and ensuring the deviation or corrections are validated and acceptable to the DGCA.
- f. Time limitations (calendar time, operational hours, flight cycles) or standards for determining time limitations for overhauls, inspections, and checks of airframes, engines, propellers, appliances, and emergency equipment.
- g. Procedures for aircraft refueling, elimination of fuel contamination, fire protection (including electrostatic protection), and supervision and protection of passengers during refueling (refer to CASR 121.135(c)(9)(i) and 135.135(c)(9)(i)).
- h. Airworthiness inspections, including instructions covering procedures, standards, responsibilities, and authority of inspection personnel.
- i. Method & procedures for maintaining the aircraft's weight & center of gravity within approved limits (ref to CASR 121.135(c)(8), 121.135(d)(7), 135.135(c)(8) & 135.135(d)(7)).

- j. A suitable system, which may include a coded system, providing for preservation and retrieval of information in a manner acceptable to the DGCA, and which provides the following:
- A description of the work performed or reference to data acceptable to the DGCA,
 - The name of the person performing the work if the work is performed by a person outside the organization of the certificate holder; and
 - The name or other positive identification of the individual approving the work.
- vii. **Scope of work** (refer to CASR 121.369(f)(11), 135.369(g)(11), 121.369(f)(13) and 135.369(g)(13)).
- a. A description of aircraft types and models to which the manual applies.
- b. Detailed description of the scope of maintenance work undertaken by the certificate holder.

The CMM must contain clear descriptions of the types and level of maintenance that the operator is authorized to conduct under its Part 121/135 Air Operator Certificate. One way an operator may describe the scope of its CAMP, which should include the types and kinds of authorized and prohibited maintenance, is to include a copy of the operator's ACL D072 in the CMM. Since the ACL are designed to address a variety of situations and are not easy to understand, the PMI or Airworthiness Inspector should encourage operators to extract the applicable information and incorporate it into the CMM. Clearly written direction and guidance on how the operator will comply with the authorizations and limitations should also be included.

Inclusion of Organization Charts, Programs, and Information Retrieval Systems. PMIs or Airworthiness Inspector must review and ensure the manual has all the following required information:

- A chart or description of the certificate holder's organization required by CASR 121/135.365, and a list of persons with whom it has arranged for the performance of any of its required inspections and other maintenance, preventive maintenance, or alterations, including a general description of that work.

a. The programs required by CASR 121/135.367 that must be followed in performing maintenance, preventive maintenance, and alterations of that certificate holder's airplanes, including airframes, aircraft engines, propellers, appliances, emergency equipment, and parts thereof. The programs must include at least the following:

- The method of performing routine and nonroutine maintenance (other than required inspections), preventive maintenance, and alterations.
- A designation of the items of maintenance and alteration that must be inspected (required inspections). This includes those that could result in a failure, malfunction, or defect endangering the safe operation of the aircraft if not performed properly or if improper parts or materials are used.
- The method of performing required inspections and a designation by occupational title of personnel authorized to perform each required inspection.
- Procedures for the reinspection of work performed pursuant to previous required inspection findings (buy-back procedures).
- Procedures, standards, and limits necessary for required inspections, and acceptance or rejection of the items required to be inspected and for periodic inspection and calibration of precision tools, measuring devices, and test equipment.
- Procedures to ensure that all required inspections are performed.
- Instructions to prevent any person who performs any item of work from performing any required inspection of that work.
- Instructions and procedures to prevent an inspector's decision regarding any required inspection from being countermanded by persons other than supervisory personnel of the inspection unit, or a person at that level of administrative control that has overall responsibility for the management of both the required inspection functions and the functions of other maintenance, preventive maintenance, and alterations.
- Procedures to ensure that required inspections and other maintenance, preventive maintenance, and alterations that are not completed because of shift changes or similar work

interruptions are properly completed before the aircraft is released to service.

b. A suitable system (which may include a coded system) that provides for preservation and retrieval of information in a manner acceptable to the DGCA, and that provides:

- A description (or reference to data acceptable to the DGCA) of the work performed;
- The name of the person performing the work if the work is performed by a person outside the organization of the certificate holder; and
- The name or other positive identification of the individual approving the work.

viii. **Housing and Facilities** (refer to CASR 121.369(f)(15) and 135.369(g)(15))

A description of the housing, facilities, equipment, and materials as required by CASR 121.365(a), as follows:

a. Housing and facilities requirements

(a) Each certificated holder must provide:

- (1) Housing for the facilities, equipment, materials, and personnel consistent with its ratings.
- (2) Facilities for properly performing the maintenance, preventive maintenance, or alterations of articles or the specialized services for which it is rated. Facilities must include the following:
 - (i) Sufficient work space and areas for the proper segregation and protection of articles during all maintenance, preventive maintenance, or alterations;
 - (ii) Segregated work areas enabling environmentally hazardous or sensitive operations such as painting, cleaning, welding, avionics work, electronic work, and machining to be done properly and in a manner that does not adversely affect other maintenance or alteration articles or activities;
 - (iii) Suitable racks, hoists, trays, stands, and other segregation means for the storage and protection of all articles undergoing maintenance, preventive maintenance, or alterations;
 - (iv) Space sufficient to segregate articles and materials stocked for installation from those articles undergoing maintenance, preventive maintenance, or alterations; and

- (v) Ventilation, lighting, and control of temperature, humidity, and other climatic conditions sufficient to ensure personnel perform maintenance, preventive maintenance, or alterations to the standards required by this part.
 - (b) A certificated holder with an airframe rating must provide suitable permanent housing to enclose the largest type and model of aircraft listed on its operations specifications.
 - (c) A certificated holder may perform maintenance, preventive maintenance, or alterations on articles outside of its housing if it provides suitable facilities that are acceptable to the DGCA and meet the Housing and facilities requirements so that the work can be done in accordance with the requirements of CASR Part 43.
- b. Change of location, housing, or facilities
- (a) A certificated holder may not change the location of its housing without written approval from the DGCA.
 - (b) A certificated holder may not make any changes to its housing or facilities that could have a significant effect on its ability to perform the maintenance, preventive maintenance, or alterations under its AOC certificate and operations specifications/ACL without written approval from the DGCA.
 - (c) The DGCA may prescribe the conditions, including any limitations, under which a certificated holder must operate while it is changing its location, housing, or facilities.
- c. Equipment, materials, data and aeronautical product requirements
- (a) Except as otherwise prescribed by the DGCA, a certificated holder must have the equipment, tools, and materials necessary to perform the maintenance, preventive maintenance, or alterations under its AOC certificate and operations specifications in accordance with Part 43. The equipment, tools, and material must be located on the premises and under the AOC's control when the work is being done.
 - (b) A certificated holder must ensure all test and inspection equipment and tools used to make airworthiness determinations on articles are calibrated to a standard acceptable to the DGCA.
 - (c) The equipment, tools, and material must be those recommended by the manufacturer of the article or must be at least equivalent to those recommended by the manufacturer and acceptable to the DGCA.

- (d) A certificated holder must ensure that the procurement of aeronautical products are obtained from the source as required by CASR Part 57.3 (a) (1), as follows:
- (i) A manufacturer of aeronautical products, who is approved either by DGCA or by a Foreign Civil Aviation Authority (FCAA), with whom DGCA has either a bilateral airworthiness agreement (BAA) or its equivalent,
 - (ii) A manufacturer who is approved to produce, identify and certify an appliance conforming to a specific DGCA appliance type approval or FAA Technical Standard Order (TSO) or its equivalent issued by an FCAA with whom DGCA has a BAA or its equivalent,
 - (iii) A manufacturer who produces, identifies and certifies standard parts and materials which conform to established industrial, national or international standards, and which are referenced in approved design data,
 - (iv) An organization approved either by DGCA, or an FCAA under a BAA or its equivalent, to perform maintenance on aeronautical products and who is authorized to certify such products as serviceable and in a condition for safe operation,
 - (v) An organization which is approved by DGCA for the distribution of aeronautical products pursuant to this Part, or
 - (vi) A supplier who provides original certification of product conformity to approved design data for supplies acquired from authorized sources.

- (e) A Certificate holder must have procedures obtaining and assessing the continuing airworthiness informations and recommendations from the organizations responsible for the type design (refer to CASR 121.369(f)(8) and 135.369(g)(8)).

A certificated holder must maintain, in a format acceptable to the DGCA, the documents and data required for the performance of maintenance, preventive maintenance, or alterations under its AOC certificate and operations specifications in accordance with Part 43.

A description that ensures any person who performs work and/or servicing has access to the latest applicable technical manuals, airworthiness directives, or other related information. This system should include how technical or other related information is controlled for any work that is performed away from base. It should also address how these reference documents are controlled and updated. A description of the procedure that all modifications and repairs comply with DGCA airworthiness requirements.

The following documents and data must be current and accessible when the relevant work is being done:

- (1) Airworthiness directives,
- (2) Instructions for continued airworthiness,
- (3) Maintenance manuals,
- (4) Overhaul manuals,
- (5) Standard practice manuals,
- (6) Service bulletins, and
- (7) Other applicable data acceptable to or approved by the DGCA.

ix. Quality System (refer to CASR 121.369(f)(14) and 135.369(g)(14)):

A description of the organization's procedures and quality system as required by CASR 145.211(c) that includes the following :

- (1) A description of the system and procedures used for:
 - (i) Inspecting incoming raw materials to ensure acceptable quality; The manual must provide procedures to ensure that maintenance personnel use proper parts and materials, including:
 - Receiving inspection;
 - Shelf time;
 - Preservation of parts;
 - Parts identification system; and
 - Disposition of failed parts.
 - (ii) Performing preliminary inspection of all articles that are maintained;
 - (iii) Inspecting all articles that have been involved in an accident for hidden damage before maintenance, preventive maintenance, or alteration is performed;
 - (iv) Establishing and maintaining proficiency of inspection personnel;
 - (v) Establishing and maintaining current technical data for maintaining articles;
 - (vi) Qualifying and surveilling non-certificated persons who perform maintenance, prevention maintenance, or alterations for the AMO,
 - (vii) Performing final inspection and return to service of maintained articles;
 - (viii) Calibrating measuring and test equipment used in maintaining articles, including the intervals at which the equipment will be calibrated; and
 - (ix) Taking corrective action on deficiencies;

- (2) References, where applicable, to the manufacturer's inspection standards for a particular article, including reference to any data specified by that manufacturer;
 - (3) Procedures for revising the quality control manual required under this section and notifying the DGCA of the revisions, including how often the DGCA will be notified of revisions.
- x. **MEL Management Program:** (refer to CASR 121.369(f)(12) and 135.369(g)(12)).
- a. A method for tracking the date and time of deferral and repair;
 - b. The procedures for controlling extensions to maximum repair categories;
 - c. A review of items deferred due to unavailability of parts;
 - d. The specific duties and responsibilities of the managers of the MEL management program, listed by job title.
 - e. Procedures for ensuring that unserviceable systems and components affecting airworthiness are recorded and rectified.
- xi. **Airworthiness Directive (AD) Compliance** (refer to CASR 121.369(f)(5) and 135.369(g)(5)).
- a. Procedure awareness and assigns responsibility of AD requirement
 - b. Procedure for scheduling/planning of AD accomplishment
 - c. Procedure for AD accomplishment
 - d. Procedure for AD recording including AD compliance requirement (CASR 121.380(a)(2)(vi), 135.380(a)(4)(vi)), and AD record of accomplishment
- xii. **Maintenance Records** (refer to CASR 121.369(f)(6) and 135.369(g)(6)).
- a. A description of the kinds of maintenance records to be kept as required in CASR 121.380 and 135.380
 - b. Details of the methods used to record the maintenance, work or servicing performed, location and person responsible to keep the record, and ensure that any defects are recorded in the maintenance record.
 - c. List of person in each organization that it has designated to be responsible for making maintenance record available to DGCA upon request
 - d. Method and detail procedure for record retention as required in CASR 121.380
 - e. A planning and control system to track and control maintenance requirements to ensure that required intervals are not exceeded.

- f. A description of the procedures for maintenance record entries such as signing and dating entries, use of electronic records (where applicable), safe record keeping methods and the corrections and alterations to records.

xiii. Mandatory Reporting (refer to CASR 121.369(f)(7) and 135.369(g)(7)).

- a. A description of the procedures used to report service difficulties and mechanical interruption summary report in accordance with CASR 121.703, 121.705, 135.703, 135.705
- b. The CMM must provide procedures for the following:
- Reporting the occurrence or detection of each difficulty, failure, defect, or malfunction that may affect the reliability of the aircraft (Service Difficulty Report (SDR));
 - Reporting each interruption to a flight, unscheduled change of aircraft en route, or unscheduled stop or diversion from a route caused by known or suspected maintenance difficulties (Mechanical Interruption Summary (MIS));
 - Submitting required aircraft and engine utilization reports to the DGCA;
 - Ensuring that the operator submits all major alteration reports to the DGCA; and
 - Ensuring that the operator prepares and maintains reports of major repairs (these may be in the form of Engineering Orders (EO), if the operator/applicant is so structured).
 - Details of what needs to be reported by whom, when and in what format.

xiv. Contract Maintenance (refer to CASR 121.369(f)(1) and 135.369(g)(1)).

- a. PMIs or Airworthiness Inspector must ensure that the CMM, as appropriate, contains policy and guidance concerning the interrelationship between the operator's personnel and the personnel of organizations who provide contract services at line stations. Contractor personnel are required to be trained on operator-specific procedures. The appropriate manual must contain the specifications for the following: the types of training to be given to contractor personnel, who is responsible for providing the training, and who is responsible for keeping records of the training. Although the contractor may be delegated this responsibility, the operator has final responsibility.
- b. All maintenance contracts must be detailed and listed in the CMM. This list must include persons with whom the certificate

- holder has arranged to perform any of its required inspections, other maintenance, preventive maintenance, or alterations, including a general description of the work.
- b. Only approved maintenance organizations (AMO) can be contracted to carryout maintenance work.
 - c. A description of what needs to be done before accepting an AMO. This would include procedures to ensure that the AMO has the necessary approvals and capabilities, facilities, equipment and manpower.
 - d. If an AMO outside of Indonesia is to be used, additional requirements may need to be considered and applied.
- xv. **Required Inspection Item** (refer to CASR 121.371 and 135.371).
Procedure Required Inspection Item must include at least the following:
- a. A designation of items of maintenance and alteration that personnel must inspect (required inspections). The designations should include at least those items that, if personnel do not perform maintenance properly or use improper parts or materials, could result in a failure, malfunction, or defect endangering the safe operation of the aircraft .
 - b. A method of performing required inspections and the occupational title(s) of persons authorized to perform each required inspection.
 - c. Procedures for re-inspecting work performed under previous required inspection findings ("buy-back" procedures).
 - d. Procedures, standards, and limits necessary for required inspections and acceptance or rejection of inspected items .
 - e. Procedures to ensure that personnel perform all required inspections .
 - f. Instructions to prevent any person who performs work on any item from performing required inspection of that work.
 - g. Instructions and procedures to prevent anyone rescinding any decision of an inspector regarding a required inspection, other than those persons listed below:
 - Supervisory personnel of the inspection unit; and
 - A person at a supervisory level of administrative control who has overall responsibility for the management of both the

required inspection functions and the other maintenance, preventive maintenance, and alterations functions.

- h. Procedures to ensure that, before releasing the aircraft to service, employees complete required inspections, maintenance, preventive maintenance, and alterations not completed as a result of employee shift changes or similar work interruptions .

xvi. **Continuing Analysis And Surveillance System**
(refer to CASR 121.369(f)(10) and 135.369(g)(10)).

The CMM must provide the specifics of the operator's Continuing Analysis and Surveillance System, as follows:

- a. To establish an evaluation program to ensure that the policies and procedures contained in their CMM continue to comply with the regulatory requirements.
- b. To include a system of analysis and continuing monitoring of the performance and effectiveness of the maintenance program(s) and for the correction of any deficiency in those programs, regardless of whether those programs are carried out by the certificate holder or another person.
- c. The continuing analysis and surveillance system shall include—
- A function to monitor maintenance program performance to ensure that everyone, including all of operators maintenance providers comply with the company maintenance manual and with all applicable regulations, through a system of audits and investigations of operational events; The evaluation program should review the entire maintenance control system, including but not limited to a periodic, recurring internal audit. An internal audit is intended to identify and document areas that fail to be effective in meeting regulations, standards and company policies and procedures.
 - A function to monitor maintenance program effectiveness to ensure that the maintenance programs is producing the desired result, through a system of data collection and analysis of operational data that results from operations of aircraft.
 - The evaluation program should determine the root cause of deficiencies, areas of noncompliance, areas that need improvement, corrective actions needed and follow-up to ensure that the changes were effective.

- xvii. Maintenance Release (refer to CASR 121.369(f)(2) and 135.369(g)(2)).
- a. A description of the procedure for completing and signing a maintenance release for aircraft that had undergone maintenance.
 - b. A description of a process to ensure all scheduled maintenance has been carried out and all Airworthiness Directives (AD) have been addressed or accomplished.
 - c. The manual must provide procedures for the reporting and correction of mechanical irregularities. These procedures must address the following:
 - The recording of actions in the aircraft maintenance log (refer to CASR 121.563, 121.701, and 135.563).
 - The method of ensuring that the aircraft maintenance log is readily accessible to each flight crew member (refer to CASR 121.701 and 135.701).
 - Definition of when an airworthiness release is required.
 - The form and manner in which the operator will document an airworthiness release.
 - Provision of a copy to the pilot in command (PIC).
 - Airworthiness release procedures or maintenance record entries in the maintenance section of the manual that include a certification that:
 - a) Maintenance personnel performed work in accordance with the requirements of the manual;
 - b) Maintenance personnel inspected all items required to be inspected;
 - c) No known condition exists that would make the airplane unairworthy; and
 - d) So far as the work performed is concerned, the airplane is in condition for safe operation.

NOTE: Rather than restate the above requirements each time the operator executes an airworthiness release, the operator/applicant may provide a statement in the manual that the signature of a properly authorized person constitutes that certification.

- d. The list of personnel authorized to sign the maintenance release and the scope of their authorization and the determination of qualifications and authorization of persons to perform airworthiness releases.

xviii. **Personnel Training and Records** (refer to CASR 121.369(f)(16) and 135.369(g)(16)).

- a. The CMM must include training programs to ensure that each person who determines the adequacy of the performance of maintenance and preventive maintenance is competent to perform the necessary duties and is fully informed about procedures, techniques, and new equipment in use (refer to CASR 121.375 and 135.375). Applicable training programs should include a training program description, maintenance training requirements, and information about the frequency of training. This would include the initial, recurrent and update training including human factor training.
- b. A description of the kinds of personnel records to be kept as required in CASR 121.375.

xix. **Forms To Be Used**

If the CMM refers to specific company forms, list them and attach a sample of the inspection and maintenance forms and instructions for completing such forms or a reference to a separate forms manual.

xx. **Others Procedures**

- a. The manual must contain maintenance functional evaluation flight requirements and limitations (refer to CASR 91.407). These include:
- Items requiring a maintenance functional evaluation flight, and
 - Procedures for performing a maintenance functional evaluation flight.
- b. The manual must include ferry flight limitations and procedures.
- c. The manual must also contain other procedures, where appropriate, including (refer to CASR 121.135, and 135.135):
- Parking aircraft in high winds;
 - Short-term storage;

- Long-term storage;
 - Seasonal operation;
 - Removing ice and snow from aircraft;
 - Towing;
 - Emergency procedures;
 - Run-up/taxi personnel authorizations;
 - Aircraft ground run-up;
 - Taxiing aircraft;
 - Ramp signals and procedures;
 - Jacking, lifting, and hoisting;
 - Use of landing gear down locks;
 - Use of external gust locks;
 - Aircraft cleaning, including materials used for cleaning and flame-proofing materials after dry cleaning (refer to CASR 43.13);
 - Engine change;
 - Propeller change;
 - Cylinder change;
 - Engine and propeller overspeed;
 - High oil consumption;
 - Oil leaks;
 - Engine and propeller troubleshooting; and
 - Oxygen and nitrogen servicing and storage.
- d. The manual must include additional maintenance for Category (CAT) II or CAT III operations, if applicable.
- e. The manual must include procedures and information, as appropriate, concerning the control and handling of aircraft components or consumable materials that contain hazardous materials (hazmat), including:
- Procedures and information designed to assist personnel (particularly maintenance, shipping, and stores personnel) in identifying or recognizing aircraft components or consumable materials that contain hazmats, if personnel will be moving, storing, or handling those aircraft components or consumable materials within the air carriers' or contract maintenance providers' facilities. The manual must also include procedures and instructions relating to the safe movement, storage, or handling of those aircraft components or consumable materials.
 - Procedures and information for determining the proper packaging, marking, labeling, and materials compatibility, including instructions for the safe movement, storage, and

that contain hazmats while they are within the air carriers' facilities.

- Information, guidance, and precautions regarding the specific hazards associated with aircraft components or consumable materials containing hazmats that personnel will move, store, or handle within the air carriers' facilities.
- Information, instructions, and detailed procedures for the proper disposal of unserviceable aircraft components or consumable materials containing hazmats.

NOTE: The manual must include these procedures and information regardless of whether the carrier is a "will" or "will-not" carry.

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- g. **Analyze Results.** Upon completion of review, analyze the results and determine whether the operator/applicant's manual meets all requirements.

NOTE: "The Evaluation of Hazmat or Dangerous Goods" manual sections will require coordination with the Directorate of Aviation Security - DGCA.

- h. **Debrief Operator/Applicant.** Discuss discrepancies and advise what areas need corrective action.
- i. **Document the Task.** File all supporting paperwork in the operator/applicant's office file.
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CHAPTER III
LIST OF APPLICABLE FORMS

1. DAAO Form No. 120-32 Evaluation and Approval of CMM

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CHAPTER III
LIST OF APPLICABLE FORMS

1. DAAO Form No. 120-32 Evaluation and Approval of CMM

DIREKTUR JENDERAL PERHUBUNGAN UDARA

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SUPRASETYO

Salinan sesuai dengan aslinya
KEPALA BAGIAN HUKUM,
DIREKTORAT JENDERAL
PERHUBUNGAN UDARA
PERHURUNGAN
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