

PERATURAN DIREKTUR JENDERAL PERHUBUNGAN UDARA

NOMOR : KP468 TAHUN 2013

TENTANG  
PETUNJUK PELAKSANAAN PERATURAN KESELAMATAN  
PENERBANGAN SIPIL BAGIAN 8900-6.9 (*STAFF INSTRUCTION*)  
TENTANG INSPEKSI ORGANISASI PERAWATAN PESAWAT UDARA

DENGAN RAHMAT TUHAN YANG MAHA ESA

DIREKTUR JENDERAL PERHUBUNGAN UDARA,

- Menimbang : a. Bahwa dalam Keputusan Menteri Perhubungan Nomor KM 17 Tahun 2009 tentang Peraturan Keselamatan Penerbangan Sipil Bagian 145 Amandemen 3 (*Civil Aviation Safety Regulation Part 145 Amendment 3*) tentang Organisasi Perusahaan Perawatan Pesawat Udara (*Approved Maintenance Organizations*) telah diatur mengenai organisasi perawatan pesawat udara;
- b. bahwa untuk melaksanakan hal sebagaimana dimaksud pada huruf a, perlu ditetapkan Petunjuk Pelaksanaan Peraturan Keselamatan Penerbangan Sipil Bagian 8900-6.9 (*Staff Instruction*) tentang Inspeksi Organisasi Perawatan Pesawat Udara (*Approved Maintenance Organizations Inspection*) dengan Peraturan Direktur Jenderal Perhubungan Udara;
- Mengingat : 1. Undang-Undang Republik Indonesia Nomor 1 Tahun 2009 tentang Penerbangan (Lembaran Negara Republik Indonesia Tahun 2009 Nomor 1, Tambahan Lembaran Negara Republik Indonesia Nomor 4956);
2. Peraturan Pemerintah Nomor 3 Tahun 2001 tentang Keamanan dan Keselamatan Penerbangan (Lembaran Negara Republik Indonesia Tahun 2001 Nomor 9, Tambahan Lembaran Negara Republik Indonesia Nomor 4075);

3. Peraturan Presiden Nomor 47 Tahun 2009 tentang Kedudukan, Tugas, Fungsi, Kewenangan, Susunan Organisasi Dan Tata Kerja Kementerian Negara RI sebagaimana telah diubah dengan Peraturan Presiden Nomor 91 Tahun 2011;
4. Peraturan Presiden Nomor 24 Tahun 2010 tentang Kedudukan, Tugas, dan Fungsi Kementerian Negara serta Susunan Organisasi, Tugas, dan Fungsi Eselon I Kementerian Negara sebagaimana telah diubah dengan Peraturan Presiden Nomor 38 Tahun 2013;
5. Peraturan Menteri Perhubungan Nomor KM 17 Tahun 2009 tentang Peraturan Keselamatan Penerbangan Sipil Bagian 145 Amandemen 3 (*Civil Aviation Safety Regulations Part 145 Amendment 3*) tentang Organisasi Perusahaan Perawatan Pesawat Udara;
6. Peraturan Menteri Perhubungan Nomor KM 60 Tahun 2010 tentang Organisasi dan Tata Kerja Kementerian Perhubungan;

MEMUTUSKAN :

Menetapkan : PETUNJUK PELAKSANAAN PERATURAN KESELAMATAN PENERBANGAN SIPIL BAGIAN 8900-6.9 (*STAFF INSTRUCTION*) TENTANG INSPEKSI ORGANISASI PERAWATAN PESAWAT UDARA (*APPROVED MAINTENANCE ORGANIZATION INSPECTION*)

Pasal 1

Petunjuk Pelaksanaan Peraturan Keselamatan Penerbangan Sipil Bagian 8900-6.9 (*Staff Instruction*) tentang Inspeksi Organisasi Perawatan Pesawat Udara sebagaimana tercantum dalam Lampiran Peraturan ini.

Pasal 2

Direktur Kelaikan Udara dan Pengoperasian Pesawat Udara, mengawasi pelaksanaan peraturan ini.

Pasal 3

Peraturan ini mulai berlaku pada tanggal ditetapkan

Ditetapkan di : JAKARTA  
pada tanggal :

DIREKTUR JENDERAL PERHUBUNGAN UDARA

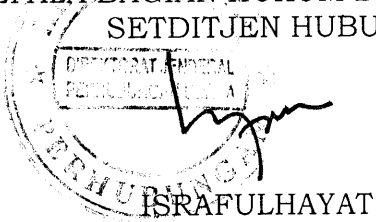
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HERRY BAKTI

SALINAN Peraturan ini disampaikan kepada :

1. Sekretaris Jenderal, Kementerian Perhubungan;
2. Inspektur Jenderal, Kementerian Perhubungan;
3. Sekretaris Direktorat Jenderal Perhubungan Udara;
4. Para Direktur di Lingkungan Ditjen Perhubungan Udara;

SALINAN dibuat sesuai dengan aslinya  
KEPALA BAGIAN HUKUM DAN HUMAS  
SETDITJEN HUBUD



# **Staff Instruction**

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## **SI 8900 - 6.11 – Surveillance of a CASR Part 145 for Domestic Approved Maintenance Organization (AMO)**

Amendment : 0  
Date :

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

**AMENDMENT RECORD LIST**

<b>Amendment No.</b>	<b>Issue Date</b>	<b>Inserted By</b>	<b>Insertion Date</b>
Original issue	SKEP/...../.../2013 ..../.../2013		

### SUMMARY OF AMENDMENTS

<b>Amendment No.</b>	<b>Source/s</b>	<b>Subject/s</b>	<b>Approved</b>
Original			SKEP/.../.../2013.../.../2013

## FOREWORD

1. **PURPOSE** : This Staff Instruction prescribes responsibilities, policies, and procedures to be used by the Directorate General of Civil Aviation (DAAO) for inspecting of CASR Part 145 Approved Maintenance Organization (AMO) located within Republic of Indonesia (Domestic AMO) and outside Republic of Indonesia (Foreign AMO).  
  
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** : SI 8300 Volume 3 Chapters 97 and 98, Revision 4, dated 25 March 2010 is cancelled
4. **AMENDMENT** : The amendment of this Staff Instruction shall be approved by the Director General of Civil Aviation.

DIRECTOR GENERAL OF CIVIL AVIATION

ttd

HERRY BAKTI

SALINAN dibuat sesuai dengan aslinya  
KEPALA BAGIAN HUKUM DAN HUMAS  
SETDITJEN HUBUD



ISRAFULHAYAT

## TABLE OF CONTENTS

<b>AMENDMENT RECORD LIST</b> .....	2
<b>SUMMARY OF AMENDMENTS</b> .....	3
<b>FOREWORD</b> .....	4
<b>TABLE OF CONTENTS</b> .....	5
<b>CHAPTER I – INTRODUCTION</b> .....	8
1. PURPOSE.....	8
2. DEFINITIONS AND ABBREVIATIONS.....	8
3. REGULATORY REFERENCES.....	11
<b>CHAPTER II – AMO CERTIFICATE REQUIREMENTS</b> .....	12
1. INTRODUCTION.....	12
2. PROCEDURES.....	12
3. TASK OUTCOMES.....	13
4. FUTURE ACTIVITIES.....	13
<b>CHAPTER III - RECORD SYSTEM</b> .....	14
1. INTRODUCTION.....	14
2. PROCEDURES.....	14
3. TASK OUTCOMES.....	17
4. FUTURE ACTIVITIES.....	17
<b>CHAPTER IV - MANUALS SYSTEM</b> .....	18
1. INTRODUCTION .....	18
2. PROCEDURES.....	18
3. TASK OUTCOMES.....	20
4. FUTURE ACTIVITIES.....	21



<b>CHAPTER V - HOUSING AND FACILITIES</b> .....	22
1. INTRODUCTION.....	22
2. PROCEDURES.....	22
3. TASK OUTCOMES.....	24
4. FUTURE ACTIVITIES.....	24
<b>CHAPTER VI - TOOLS AND EQUIPMENT</b> .....	25
1. INTRODUCTION.....	25
2. PROCEDURES.....	25
3. TASK OUTCOMES.....	28
4. FUTURE ACTIVITIES.....	28
<b>CHAPTER VII - TECHNICAL DATA</b> .....	29
1. INTRODUCTION.....	29
2. PROCEDURES.....	29
3. TASK OUTCOMES.....	33
4. FUTURE ACTIVITIES.....	33
<b>CHAPTER VIII - QUALITY CONTROL / ASSURANCE SYSTEM</b> .....	34
1. INTRODUCTION.....	34
2. PROCEDURES.....	35
3. TASK OUTCOMES.....	40
4. FUTURE ACTIVITIES.....	40
<b>CHAPTER IX – PARTS AND MATERIALS</b> .....	41
1. INTRODUCTION.....	41
2. PROCEDURES.....	41
3. TASK OUTCOMES.....	43
4. FUTURE ACTIVITIES.....	44
<b>CHAPTER X – PERSONNEL</b> .....	44

1. INTRODUCTION.....	44
2. PROCEDURES.....	44
3. TASK OUTCOMES.....	47
4. FUTURE ACTIVITIES.....	47
<b>CHAPTER XI – TRAINING PROGRAM .....</b>	<b>48</b>
1. INTRODUCTION.....	48
2. TRAINING PROGRAMS.....	48
3. INSTRUCTORS.....	49
4. PROCEDURES.....	49
5. TASK OUTCOMES.....	50
6. FUTURE ACTIVITIES.....	50
<b>CHAPTER XII – MAINTENANCE PROCESS.....</b>	<b>51</b>
1. INTRODUCTION.....	51
2. PROCEDURES.....	51
3. TASK OUTCOMES.....	54
4. FUTURE ACTIVITIES.....	54
<b>CHAPTER XIII - WORK OTHER THAN FIXED LOCATIONS .....</b>	<b>55</b>
1. INTRODUCTION.....	55
2. PROCEDURES.....	55
3. TASK OUTCOMES.....	58
4. FUTURE ACTIVITIES.....	58
<b>CHAPTER XIV – CONTRACT MAINTENANCE.....</b>	<b>59</b>
1. INTRODUCTION.....	59
2. PROCEDURES.....	60
3. TASK OUTCOMES.....	65
4. FUTURE ACTIVITIES.....	65

## CHAPTER I – INTRODUCTION

### 1. PURPOSE.

This chapter defines relevant definitions and terms for inspection a Civil Aviation Safety Regulation (CASR) part 145 Approved Maintenance Organization (AMO). It also explains the regulatory references applicable to a AMO Inspections.

### 2. DEFINITIONS AND ABBREVIATIONS

**AC:** Advisory Circular means DAAO guidance methods compliance with regulations

**Accountable Manager:** the certificated AMO designates the accountable manager as responsible for, and having authority over all AMO operations conducted under CASR part 145. This person's duties include ensuring that AMO personnel follow the regulations and serving as the primary contact with the DAAO.

**Air Carrier:** means a person who undertakes directly by lease, or other arrangement, to engage in air transportation.

**AMO:** Approved Maintenance Organization.

**AMO Certificate of Approval:** the authority granted by DAAO for an AMO to conduct business.

**AMO Manual:** the manual describes the procedures and policies of an AMO's operations.

**AMOC:** Alternative Method of Compliance

**Article:** an article is an aircraft, airframe, aircraft engine, propeller, appliance, or component part.

**Audit:** Audit means, A methodical, planned examination of processes, records, and transactions to verify compliance with a specific audit criterion. Inspections are normally a part of an audit. Results are primarily presented in terms of findings and concerns. Auditing measures against a defined standard, but does not analyze the standard.

**Capability List:** a capability list (CL) is a list of articles on which the AMO is rated to perform maintenance, preventative maintenance, or alterations.

**Certificated AMO:** a certificated AMO is an AMO that has a fixed main base location, has met the certification requirements of CASR Part 145, and is engaged in the maintenance, preventive maintenance, inspection, and alteration of aircraft and aircraft products as defined in CASR Part 43.

**Class Ratings:** class ratings are issued if the AMO can prove its capability to maintain a representative number of products under this rating. After issuance of a class rating, it should not have restrictions to a specific product added. For such a case, issue a limited rating.

**Contracting:** Contracting means entering into an agreement between two or more persons for the performance of maintenance functions on an article.

**Correction:** A correction is an action to eliminate a detected nonconformity as it relates to the articles or the maintenance processes.

**Corrective Action:** Corrective action is an action to eliminate the cause of a detected nonconformity or other undesirable condition to prevent its recurrence.

**DAAO:** Directorate of Airworthiness and Aircraft Operations

**DAH:** Design Approval holder

**DAAO:** Directorate General of Civil Aviation.

**Directly in Charge:** The person directly in charge is responsible for the work of a certificated AMO that performs maintenance, preventive maintenance, alterations, or other functions affecting aircraft airworthiness.

**Domestic AMO:** A domestic AMO is an automated OpSpecs term used to describe a DAAO-certificated facility within the Republic of Indonesia that performs maintenance, preventive maintenance, or alterations on article

**Foreign AMO:** A foreign AMO is an automated OpSpecs term that describes a DAAO-certificated facility located outside of the Republic of Indonesia that performs maintenance, preventive maintenance, or alterations on articles.

**Human Factors:** Human Factors is the discipline of optimizing human performance in the workplace by combining a wealth of knowledge, primarily from the disciplines of psychology and ergonomics.

**ICA:** Instructions for Continued Airworthiness

**KAN:** Komite Akreditasi Nasional or National Accreditation Committee (NAC). KAN/NAC is the only institution authorized to provide accreditation services conformity assessment bodies (laboratories, inspection bodies, certification bodies) in Indonesia

**LLP:** Life-limited part means any part for which a mandatory replacement limit is specified in the type design, the Instructions for Continued Airworthiness, or the maintenance manual.

**Life status:** Life status means the accumulated cycles, hours, or any other mandatory replacement limit of a life-limited part.

**Limited Specialized Service Ratings:** Limited specialized service ratings are issued for a special maintenance function when the function is performed in accordance with a specification or data acceptable to the DAAO. The OpSpecs must include the specifications or data used by the AMO to perform that service in accordance with CASR Part 145.61(c).

**Line Maintenance:** Line maintenance is unscheduled maintenance resulting from unforeseen events, or scheduled checks that contain servicing and/or inspections that do not require specialized training, equipment, or facilities.

**Maintenance Function:** A maintenance function is a step or series of steps in the process of performing maintenance, preventive maintenance, or alterations, which may result in approving an article for return to service.

**Major Repair:** Major Repair means a repair: (1) That, if improperly done, might appreciably affect weight, balance, structural strength, performance, powerplant operation, flight characteristics, or other qualities affecting airworthiness; or (2) That is not done according to accepted practices or cannot be done by elementary operations.

**MTE:** Measuring Test Equipment means precision tools and test equipment used to make airworthiness determinations

**NDI:** Non-destructive Inspection.

**OEM:** Original Equipment Manufacturer

**OpSpecs:** Operations Specifications. The DAAO issues OpSpecs to indicate the authorizations and limitations to ratings as specified on the Air Agency Certificate.

**PAH:** Production Approval Holder

**PMA:** Parts Manufacturer Approval

**PMI:** Principal Maintenance Inspector

**QCM:** Quality Control Manual. The QCM describes the inspection and quality control system and procedures used by the AMO.

**QCS:** Quality Control System

**RTS:** Return to Service.

**Satellite AMO:** A satellite AMO is an additional certificated facility or location under the managerial control of another certificated AMO.

**SB:** Service Bulletins

**SUP:** Suspected Unapproved Parts

**TC:** Type Certificate

**TCH:** Type Certificate Holder's

**Top Management:** Top Management means, AMO's chief executive officer (CEO), chief operating officer (COO), president, or a person in an equivalent position who has the authority to resolve issues and take action and can be held accountable for quality issues. The FAA believes that top management should be well aware of the plans, results (findings, concerns, and observations), and follow-up actions undertaken in an Internal audit Program.

**TSO:** Technical Standard Order

### **3. REGULATORY REFERENCES**

- a. CASR Parts 43, 45, 65, 121, 135 and 145
- b. Advisory Circular 145-9
- c. Guide for Developing and Evaluating AMO Maintenance Procedures Manuals and Quality Control Manual, as amended
- d. Staff Instruction (SI) 8900-2.11 – Certification or Renewal or Amendment of a CASR Part 145 Approved Maintenance Organization (AMO)

## CHAPTER II – AMO CERTIFICATE REQUIREMENTS

### 1. INTRODUCTION.

- a. **Objective.** This chapter provides guidance for inspecting the certificate requirements in accordance with CASR part 145.
- b. **General.** CASR Parts 145.5, 145.207, 145.209, 145.211 and 145.215 require that all certificate of approvals, operations specifications (OpSpecs), organizational charts, and capability lists are to be kept current and available for inspection and verification.

### 2. PROCEDURES.

- a. **Review Applicable Information.** Before the inspection, the Principal Maintenance Inspector (PMI) or DAAO Inspector should carefully review:
  - 1) CASR Parts 43 and 145.
  - 2) AMO Manual /Quality Control Manual (QCM).
  - 3) OpSpecs.
  - 4) Capability list as required.
- b. **Review AMO Certificate of Approval.** Review the AMO's certificate of approval and OpSpecs to verify that they are:
  - 1) Available for inspection.
  - 2) Identical to those on file in the DAAO and properly signed.
  - 3) Appropriate for the maintenance and alterations that personnel at the facility perform.
  - 4) If the AMO uses a capability list, verify that it is at the same revision level as the one on file at the DAAO.
  - 5) Certificates for AMOs located in the Republic of Indonesia have a limited duration not exceeding one (1) year from the date the certificate is issued. Certificates for AMOs located outside Republic of Indonesia have a limited duration to 24 month from date of certificate is issued.
- c. **Determine Whether the AMO Holds a Limited Rating.** If the AMO holds a limited rating, each article it is authorized to maintain and alter will be identified

either on a capabilities list or on its OpSpecs. Each item on the capabilities list must have documentation to show that a self-evaluation was done to determine that the necessary housing, facilities, tools, test equipment, materials, technical data, processes, and trained personnel were available to accomplish the work. If the AMO uses a capabilities list, verify that it follows the procedures in its AMO Manual/QCM for conducting self-evaluations and revising the list in accordance with CASR Part 145.215(c).

- d. Review the Organizational Chart.** Verify that the AMO's organizational chart is current and is the same as the DAAO copy. Verify whether the chart matches the duties listed in the AMO manual.
- e. Review Exemptions.** If the AMO is authorized to conduct operations in accordance with the provisions, conditions, and/or limitations set forth in an DAAO exemption, that exemption would be listed in OpSpec. Review each exemption and verify that the AMO complies with its conditions and limitations.
- f. Verify Data for Additional Fixed Locations.** If the AMO is authorized to have additional fixed locations, the locations must be listed in OpSpec. Verify the data is correct.
- g. Analyze Findings.** Evaluate all deficiencies to determine if corrective actions will be required.
- h. Conduct Debriefing.** Brief the certificate holder on the inspection results. Discuss any deficiencies and possible corrective actions.

### **3. TASK OUTCOMES.**

- a. Complete the Task.** Completion of this task will result in one of the following:
  - 1) Sending a letter to the operator documenting all deficiencies and initiating an enforcement investigation, if necessary
  - 2) A satisfactory inspection with no deficiencies
- b. Document the Task.** File all supporting paperwork in the DAAO office file.

### **4. FUTURE ACTIVITIES.** Schedule and conduct follow up inspections as applicable.



## CHAPTER III - RECORD SYSTEM

### 1. INTRODUCTION.

- a. **Objective.** This chapter provides guidance for inspecting the maintenance records system required by CASR parts 43 and 145.
- b. **General.** AMO records include any records that document maintenance and alteration performed on an aircraft or part thereof. An agency must have their maintenance records inspected periodically to verify that they meet the requirements of the AMO Manual/Quality Control Manual procedures.

### 2 PROCEDURES.

- a. **Review Applicable Information.** Before the inspection, the Principal Maintenance Inspector (PMI) or DAAO Inspector should carefully review:
  - 1) CASR Parts 43 and 145.
  - 2) AMO Manual/QCM for the description of the required records and the recordkeeping system used to obtain, store, and retrieve those records.
- b. **Review Required Records and Retention.** The records must be in English and retained for no less than 2 years. The AMO must provide a copy of the return to service to the owner/operator. If the AMO chooses to use DAAO Form 21-18 as a return to service, the records must include a copy of the completed form.

The AMO Manual procedures should describe who would review the records for accuracy and completeness before approval for return to service.

The records retained by the AMO, required by CASR Part 145.219, need only to demonstrate compliance with the requirements of CASR part 43.

Whatever record system is used by the AMO it must clearly state on both the record given to the owner/operator and the record retained by the AMO that the aircraft, engine, propeller, or article is approved for return to service.

Verify the records comply with CASR part 43 as follows:

- 1) CASR Part 43.9 describes the content, form, and disposition of maintenance, preventive maintenance, and alteration records. The content must include a description of the maintenance performed, the date the AMO completes the maintenance, and the name of the person performing the maintenance. It also must include the signature or stamp, (if a stamp system

is used by a AMO), certificate number, and type of certificate of the person approving the maintenance for return to service.

- 2) CASR Part 43.11 describes the content, form, and disposition of maintenance records for inspections performed under CASR 91, and 135, CASR Part 135.380(a) and 135.380a. Verify the entry of record entries in the appropriate aircraft maintenance record reflecting the type inspection performed and the similarly worded approval for return to service statement.
- 3) The AMO should retain a record of all major repairs and alterations completed as part of any maintenance record retention system as required by the regulation.
  - a) The AMO may use the customer's work order, or DAAO 43-337, Major Repair and Alteration (Airframe, Powerplant, Propeller, or Appliance), to record a major repair made in accordance with a DAAO-approved manual or other approved data.
  - b) The AMO must use DAAO 43-337 to record major alterations. Verify the completion and routing of DAAO 43-337 in accordance with the requirements in part 43, appendix B.

NOTE: Document major repairs and alterations for air carriers in accordance with the air carrier's manual.

- c. **Check Personnel Rosters.** Ensure AMOs retain the history of the required personnel roster to provide the PMI / DAAO Inspector with information concerning added or removed personnel authorizations.
- d. **Verify Records Availability.** AMOs must make records available to the DAAO and the National Transportation Safety Committee (NTSC). The DAAO Inspector / PMI should verify the AMO organizes the "records package" for easy retrieval and comply with the procedures that describe the location of the records and the system used to retrieve those records. DAAO Inspector must review procedures governing the storage and retrieval of records from remote storage sites for compliance.
- e. **Review Training Records.** For a period of 2 years, the AMO must retain all training records. The training records must record both initial and recurrent training. However, if the AMO employs the employee over the 2-year requirement, the record of the initial training may not be available for review. The DAAO recommends the DAAO Inspector / PMI encourage the AMO to retain a record of the employee's initial training.
- f. **Check Electronic Records.** If the DAAO approves in accordance with appropriate reference and the AMO uses an electronic recordkeeping system, the DAAO Inspector / PMI should review the AMO manual for relevant procedures and verify the following elements:

1) Procedures, to include the following:

- a) Procedures making required records available to both the NTSC and DAAO personnel. If the computer hardware and software system is not compatible with the DAAO and the NTSC system, the organization must provide an employee or representative to assist. This individual must be familiar with the computer system and assist in accessing the necessary computerized information. This procedure and computer system must be capable of producing paper copies of the viewed information at the request of the DAAO or NTSC authorized representative.

NOTE: The DAAO and NTSC must be able to review the records and information at their respective offices when necessary and on request. Persons or entities can fulfill this request in many ways (e.g., electronic copy, paper copy, etc.).

- b) Procedures for reviewing the computerized personal identification codes system to ensure that the system will not permit password duplication.
- c) Procedures for auditing the computer system to ensure the integrity of the system. Complete a record of the audit and retain it on file as part of the operator's record retention requirements. This audit may be a computer program that automatically audits itself.
- d) Audit procedures to ensure the integrity of each computerized workstation. If server-based workstations contain no inherent attributes that enable or disable access, there is no need to audit each workstation.
- e) Procedures describing how the operator will ensure the transmission of computerized records in accordance with the appropriate regulatory requirements to customers or to another operator. The records may be either electronic or paper copies.
- f) Procedures to ensure that records required to transfer with an aircraft are in a format (either electronic or on paper) that is acceptable to the new owner/operator.
- g) Guidelines for authorized representatives of the owner/operator to use electronic signatures and to have access to the appropriate records.
- h) A description of the training procedure and requirements necessary to authorize access to the computer hardware and software system. (Recognizing that the details will vary with the different individuals who need access, the training description may simply be part of the position description. The AMO Manual/QCM should reference its location.)

2) Security, to include the following:

- a) The electronic system should protect confidential information.
  - b) The system should ensure that there are no alterations of the information in an unauthorized way.
  - c) A corresponding policy and management structure should support the computer hardware and computer software that delivers the information.
- g. Check Air Carrier Procedures.** If the AMO is performing maintenance for an air carrier (CASR 121,129, or 135), verify the AMO maintenance records reflect the requirements found in the air carrier or air operator's manual. The forms and procedures may differ from those the AMO normally uses.
- h. Verify Malfunction Defect Reporting.** Verify whether the AMO has submitted reports of failures, malfunctions, or defects to the DAAO within 96 hours of discovery and submitted them in accordance with AMO Manual/QCM requirements.
- i. Analyze Findings.** Evaluate all deficiencies to determine if they will require corrective actions.
- j. Conduct Debriefing.** Brief the certificate holder on the inspection results. Discuss any deficiencies and possible corrective actions.

### 3. TASK OUTCOMES.

- a. Complete the Task.** Completion of this task will result in one of the following:
- 1) Sending a letter to the operator documenting all deficiencies and requesting corrective action,
  - 2) Initiating an enforcement investigation, if necessary, or
  - 3) A satisfactory inspection with no deficiencies.
- b. Document the Task.** File all supporting paperwork in the DAAO office file.

### 4. FUTURE ACTIVITIES.

Schedule and conduct follow up inspections as applicable.

## CHAPTER IV - MANUALS SYSTEM

### 1. INTRODUCTION

- a. **Objective.** This chapter provides guidance for inspecting a AMO's manual system.
- b. **General.** The AMO may have several manuals or documents that are part of its quality control, AMO, and training manual system. The certificate holder may combine portions required by CASR part 145, CASR Part 145.209 with portions required by CASR Part 145.211 and 145.163 into one section or chapter of the manual system.

### 2 PROCEDURES.

- a. **Review Applicable Information.** Before the inspection, the Principal Maintenance Inspector (PMI) or DAAO Inspector should carefully review:
  - 1) AMO Manual/Quality Control Manual (QCM). The DAAO Inspector or PMI should be familiar with the policies and procedures contained therein.
  - 2) The AMO training program and manual.
  - 3) Directorate Airworthiness and Aircraft Operation (DAAO) office file.
- b. **Inspect AMO Manual.** Verify if:
  - 1) Revisions to the AMO Manual are being made in accordance with the AMO's revision system.
  - 2) The AMO Manual identifies who is authorized to make and approve changes to the AMO Manual.
  - 3) Revisions are properly distributed and incorporated by sampling AMO Manuals throughout the facility.
  - 4) All copies of the AMO Manual are at the same revision level as the DAAO copy.
  - 5) The AMO Manual is accessible for use by all AMO personnel, on all work shifts. If the manual system is maintained electronically, sufficient viewing terminals must be available and each copy on individual computers must be current.

**NOTE:** When the AMO Manual is located in the work area and it is in the national language, the DAAO team must be provided with a supervisor or other person who can read the national language version to the team so the DAAO team can confirm that this version has the same information as the English language version. This same process would apply when the DAAO requests review of maintenance records, technical documents, and other material that is part of the certification. (The use of the national language is an option provided to AMOs located outside the Republic of Indonesia. If an AMO elects to use the national language, it must provide a method for the DAAO to confirm that the material is accurate.)

**NOTE:** Verify the foreign AMO has provided the DAAO with an English language version of its AMO Manual.

**c. Review the Quality Control System.** Verify if:

- 1) The QCM is available to all AMO personnel.
- 2) All technical data referenced in the manual is current.
- 3) All maintenance and inspection forms listed in the manual are still current and the AMO is not using any forms in the quality system not listed in the manual.
- 4) All copies of the QCM are at the same revision level as the DAAO copy.

**d. Review the Training Manual.**

AMOs vary drastically in size and capabilities; therefore an inspector can expect differences in AMO training programs. The training program must be appropriate to its organization and the work it performs. The training program itself may be documented in the AMO Manual or it may be a separate document.

- 1) If the training program is a separate document, verify it is approved and current.
- 2) If the training program is incorporated in the AMO Manual, verify that the section of the manual is an approved document and that it is current.

NOTE: The PMI approves the training program. The curriculum, course outline, lesson plans, and instructors are not approved by the PMI.

**e. Check the Air Carrier Manuals.**

Some AMOs perform maintenance, preventive maintenance, or alterations for air carriers and air operators conducting operations under CASR parts 121, 129, and 135. When this is the case, maintenance must be performed in accordance with the air carrier's Continuous Airworthiness Maintenance Program (CAMP) and/or the maintenance manual.

Verify that the AMO has been provided with the information necessary to ensure compliance with this requirement. This information must be defined on contractual documents from the air carrier by clearly stating the source of the data (manufacturer's or air carrier's) used to perform the requested maintenance along with any other requirements of its program or maintenance manual. If the AMO has applicable sections of air carriers' maintenance program(s) or manual(s), verify that they are controlled and current copies.

**f. Review Electronic Manual(s).** For electronic manual(s), the following concerns should be reviewed during the inspection:

1) Security and Access. Determine that:

- a). Only authorized personnel may make changes to the manual,
- b). Access is protected by passwords,
- c). Employees have been trained to access the manual on the network, and
- d). All of the supervisors and inspectors have access to the manual.

2) Revisions. Determine if:

- a) The user knows that the manual has been revised and what content was changed, and
- b) Personnel verifies the currency of individual disks before use.

NOTE: Transmittal documents include cover letters, memos, e-mails, faxes, and any other media acceptable to the DAAO.

**g. Analyze Findings.** Upon completion of the inspection, record all deficiencies; determine the appropriate corrective action(s).

**h. Conduct Debriefing.** Brief the certificate holder on the inspection results. Discuss any deficiencies and possible corrective actions.

### **3 TASK OUTCOMES.**

**a. Complete Record.** DAAO Inspector must ensure that the AMO findings are properly documented with the appropriate keywords and comments.

- 1) Followup or unsatisfactory findings require that the AMO certification requirements are met.
- 2) Potential problems that were identified but not corrected on the spot must have corrective actions directed and followup activity triggered or planned to verify that the deficiency, findings and irregularities are properly corrected.

**b. Complete the Task.** Completion of this task may result in one of the following:

- 1) Sending a letter to the operator documenting all deficiencies, requesting corrective action;
- 2) Initiating an enforcement investigation, if necessary; or
- 3) A satisfactory inspection with no deficiencies.

**c. Document Task.** File all supporting paperwork in the DAAO office file.

#### **4. FUTURE ACTIVITIES.**

Schedule and conduct follow up inspections as applicable.



## CHAPTER V - HOUSING AND FACILITIES

### 1. INTRODUCTION.

1. **Objective.** This chapter provides guidance for inspecting the adequacy of the AMO facilities.
2. **General.** The certificated AMO must provide the facilities to accommodate the equipment, materials, and personnel necessary to properly perform the maintenance, preventive maintenance, alterations of articles, or the specialized services for the rating it receives. When inspecting the AMO, determine which items apply based on the complexity of the facility and the level of ratings.

AMOs with line maintenance authorization locations, except for the provisions of CASR Part 145.205(c) that provide relief from CASR Part 145.103(b), must also meet these requirements.

### 2. PROCEDURES.

- a. **Review Applicable Information.** Before the inspection, the Principal Maintenance Inspector (PMI) or DAAO Inspector should carefully review:
  - 1) CASR Part 145.
  - 2) AMO Manual/Quality Control Manual
  - 3) Operations specifications (OpSpecs),
  - 4) Directorate Airworthiness and Aircraft Operation (DAAO) office file.
- b. **Verify Segregation and Protection of Parts.** Verify that each workspace has areas for the proper segregation and protection of parts and subassemblies during all phases of maintenance, preventive maintenance, or alterations. Inspect for the following:
  - 1) The differences between serviceable and unserviceable components, parts, and materials must be clearly distinguishable throughout each process. AMOs may accomplish this with suitable racks, hoists, trays, stands, and/or other means of segregation for the storage and protection of all articles.
  - 2) AMOs should situate environmentally hazardous or sensitive operations, such as avionics work, battery maintenance, painting, cleaning, welding, and machining in such a manner that they do not adversely affect other maintenance or alteration of articles or activities.

- 3) If the facility deals in non-aircraft parts, materials, or maintenance activities outside the realm of the AMO, it should segregate the aircraft function from other functions to preclude a AMO using unapproved parts or materials on an aircraft.
  - 4) AMOs must segregate articles and materials stocked for installation from those undergoing maintenance, preventive maintenance, or alteration.
- c. Determine Adequacy of Environmental Conditions.** Ventilation, lighting, and control of temperature, humidity, and other climatic conditions must be sufficient to ensure that personnel perform maintenance, preventive maintenance, or alterations to the required standards. In addition to reasonable heating, air conditioning, and lighting requirements, verify the following maintenance environmental conditions:
- 1) Instrument shop environmental conditions are in accordance with the manufacturer's standards.
  - 2) Composite lay-up and clean rooms are environmentally and operationally controlled in accordance with the Original Equipment Manufacturer (OEM) or other DAAO approved repair process.
  - 3) Storage areas include proper storage conditions for flammables, sealants, chemicals, tires, tooling, etc.
  - 4) Lighting is adequate for the type of processes performed in each area.
  - 5) While physically inspecting the AMO, verify that the facility diagram(s) and description in the AMO Manual are accurate. This includes any facilities used for spray painting, avionics, engine or airframe repair, or any other work that would have special requirements. Pay close attention to specific information detailed in the manual, such as the type of heating, lighting, equipment location, electrical, and compressed air outlets.
- d. Check Human Factors.** AMOs are responsible for creating a safe working environment that will prevent personnel injury and damage to customer property. The housing and facilities should provide for adequate security and fire protection. The PMI should review the AMO's safety procedures while keeping in mind that poor housekeeping or improper maintenance of safety devices, such as eye wash stations and fire extinguishers, are good indicators of the AMO's corporate culture.

NOTE: This inspection focuses on the AMO following its safety policies and procedures. Safety and health rules, codes, and regulations, which vary from one state or county to another, are outside the PMI's jurisdiction.

- e. Inspect General Housekeeping.** Inspect the AMO to determine that the general housekeeping will not contaminate component parts and subassemblies

undergoing maintenance. AMOs should maintain all shops in a clean and orderly manner.

- f. **Analyze Findings.** Upon completion of the inspection, record all deficiencies; determine the appropriate corrective action(s).
- g. **Conduct Debriefing.** Brief the certificate holder on the inspection results. Discuss any deficiencies and possible corrective actions.

### 3. TASK OUTCOMES.

- a. **Complete the Task.** Completion of this task will result in one of the following:
  - 1) Sending a letter to the operator documenting all deficiencies and requesting corrective action,
  - 2) Initiating an enforcement Investigation, if necessary or,
  - 3) A satisfactory inspection with no deficiencies.
- b. **Document the Task.** File all supporting paperwork in the DAAO office file.

### 4. FUTURE ACTIVITIES.

Schedule and conduct follow up inspections as applicable.

## CHAPTER VI - TOOLS AND EQUIPMENT

### 1. INTRODUCTION.

1. **Objective.** This chapter provides guidance for inspecting an AMO's tools and equipment and system procedures to ensure compliance with the AMO Manual and Quality Control Manual (QCM) and CASR Part 145.109.
2. **General.** The AMO is required to provide, control, and maintain the tools and equipment necessary to perform the maintenance, preventive maintenance, or alteration under its certificate and operations specifications (OpSpecs).

Precision tools and test equipment used to make airworthiness determinations are herein referred to as measuring tools and equipment (MTE).

### 2 PROCEDURES.

- a. **Review Applicable Information.** Before the inspection, the Principal Maintenance Inspector (PMI) or DAAO Inspector should carefully review:
  - 1) CASR parts 43 and 145;
  - 2) AMO Manual/QCM;
  - 3) Applicable OpSpecs; and
  - 4) Directorate Airworthiness and Aircraft Operation (DAAO) office file.
- b. **Review Calibration/Record.** Review the part of the AMO Manual/QCM describing the system and the procedures used for calibrating MTE.
  - 1) The PMI will verify:
    - a) The AMO is calibrating MTE, in accordance with the intervals, the system, and procedures described in the AMO Manual/QCM.
    - b) All MTE are calibrated and traceable to a standard acceptable to the Directorate General of Civil Aviation (DAAO), to include those recommended by the manufacturer and the Komite Akreditasi Nasional or National Accreditation Committee (KAN/NAC) or a standard provided by the manufacturer other national authority.

NOTE: The CASR part 145 rule states that tools are calibrated to a standard acceptable to the DAAO. An AMO must have an exemption authorization if it uses equipment of a manufacturer and does not address the method of calibration. Currently, exemptions of this type last for 2 years and are renewable if requested by the AMO

- 2) The PMI should consider the following:
  - a) Whether the AMO determines calibration status of new MTE before they are put into service;
  - b) How and when MTE are recalled for calibration;
  - c) Does the calibration and tracking system include employee-owned MTE;
  - d) How the AMO establishes calibration intervals;
  - e) Whether the AMO maintains a list of all calibrated equipment by name, model or part number, serial number, date of calibration, and next calibration due date;
  - f) If calibration records are maintained for at least 2 years;

If MTE are identified to prevent the inadvertent use of noncalibrated equipment in the maintenance process. The identification usually includes the serial number or other identification, date of last calibration, date calibration is due, and the name or initials of the person who performed the calibration;
  - g) Whether MTE that are not used to make airworthiness determinations are identified; and
- c. Verify Use of Manufacture's Requirements and Equivalency.** Review the part of the AMO Manual/QCM describing the system and procedures used for ensuring the equipment and tools used to maintain articles are those recommended by the article's manufacturer or an equivalent acceptable to the DAAO.
  - 1). Verify that the AMO is using the system and procedures in the AMO Manual/QCM for ensuring the equipment and tools used to maintain articles are those recommended by the article's manufacturer or an equivalent acceptable to the DAAO.

NOTE: The basis of equivalency is the requirement that the article meet the manufacturer's standards and specifications in all respects regarding tolerances, repeatability, and accuracy.

NOTE: This chapter is not intended to discuss industry standard tools and equipment (wrenches, sockets, etc.) that are manufactured to a recognized industry standard.

- 2). If the AMO manufacture's test and measuring equipment to be used as an equivalent piece of equipment for one recommended by an article's manufacturer, verify that it meets the calibration standards recommended by the manufacturer of the article being measured or tested. This type of calibration would be expected to be traceable to a standard acceptable to the DAAO.
- d. Inspection Control System, Maintenance, and Storage.** Review the parts of the AMO Manual/QCM describing the system and procedures for the control, maintenance, use, and storage of the MTE used to maintain articles.
- 1) Verify whether the:
    - a) AMO is following its system and procedures in the AMO Manual/QCM for the control, maintenance, use, and storage of the MTE used to maintain articles;
    - b) AMO has the MTE necessary to perform the maintenance, preventive maintenance, or alterations under its AMO certificate; and
    - c) MTE are located on the premises and under the AMO's control when the work is being done.
  - 2) Also consider any of the following:
    - a) Whether the AMO has the maintenance and service manuals for all MTE used to perform the maintenance, preventive maintenance, or alterations under its AMO certificate; and
    - b) Whether the AMO fulfills the MTE manufacturer's requirements for control, maintenance, use, and storage.
  - 3) If the AMO does not own the equipment and/or it is not kept at the facility, determine the following:
    - a) How the equipment is obtained (lease, rental, etc.);
    - b) How the AMO ensures the equipment is on the premises and under the AMO's control at the time the work is being performed; and
    - c) How the AMO ensures that the department responsible for calibrating leased MTE is identified.

**e. Inspect Test Cells.** Review the AMO Manual/QCM section describing the system(s) and procedure(s) necessary for correlation, operation, design, and modification of test cells. Verify that:

- 1). The AMO is following the systems and procedures in the AMO Manual/QCM for the control, maintenance, use, and storage of the MTE used to maintain articles.
- 2). The test cell conforms to the description in the AMO Manual/QCM, to include:
- 3). An accurate description of the system(s) and procedure(s) to ensure test cell correlation, operation, design, and modification; and
- 4). A description of the system(s) design, operation, configuration, and construction of test cell and test hardware for operation and performance.
- 5). The correlated test cell provides a means of ensuring that article(s) meet minimum test requirements.
- 6). The test cell instrumentation is calibrated to a standard acceptable to the DAAO.
- 7). When repairs or structural modifications that significantly effect performance have been made to an existing test cell, that test cell correlation or recorrelation is accomplished.

**f. Analyze Findings.** Upon completion of the inspection, record all deficiencies and determine the appropriate corrective action(s).

**g. Conduct Debriefing.** Brief the certificate holder on the inspection results. Discuss any deficiencies and possible corrective actions.

### **3. TASK OUTCOMES.**

**a. Complete the Task.** Completion of this task will result in one of the following:

- 1). Sending a letter to the operator documenting all deficiencies and initiating an enforcement Investigation, if necessary; or
- 2). A satisfactory inspection with no deficiencies.

**b. Document the Task.** File all supporting paperwork in the DAAO office file.

**4. FUTURE ACTIVITIES.** Schedule and conduct follow up inspections as applicable.

## CHAPTER VII - TECHNICAL DATA

### 1. INTRODUCTION.

- a) **Objective.** This chapter provides guidance for inspecting the technical data that the AMO uses. The review will confirm its: availability, currency, and appropriateness for the work performed.
- b) **General.** The AMO Manual / Quality Control Manual (QCM) must contain the procedures for ensuring that current technical data is available for the scope of maintenance the AMO is performing.

### 2. PROCEDURES.

- a. **Review Applicable Information.** Before the inspection, the Principal Maintenance Inspector (PMI) or DAAO Inspector should carefully review:
  - 1) CASR parts 43 and 145;
  - 2) AMO Manual/QCM;
  - 3) Applicable OpSpecs; and
  - 4) Directorate Airworthiness and Aircraft Operation (DAAO) office file.
- b. **Review Technical Data.** The PMI should review a representative sample of maintenance records or work orders by the AMO in order to verify the following items.
  - 1) The technical data used by AMOs could include any of the following:
    - a) **Program Deviation.** When the AMO is performing maintenance under the provisions of CASR Part 145.205, the AMO must follow the air carrier's or commercial operator's program and applicable sections of its maintenance manual. Any deviation from that program must be authorized by the air carrier. This includes technical data used for repairs or alterations. The AMO should have documentation of how and when the AMO will notify the



air carrier or commercial operator if it needs to deviate from the air carrier's or commercial operator's program.

- b) **Manufacturer's Manuals/Data.** Manufacturer's manuals/data may be approved or acceptable data. If the manufacturer's manuals do not cover the repair or alteration, then the AMO must make a determination if the repair or alteration is major. If the AMO is performing maintenance for an air carrier, then the air carrier must make that determination. The AMO may have access to other approved data applicable to the repair or alteration, but the air carrier must authorize the AMO to use that data if the AMO is performing maintenance for the air carrier. If the air carrier is providing the technical data to the AMO for a major repair or alteration, the air carrier should provide documentation that the technical data was DAAO-approved.
- c) **Inspection Programs.** CASR Part 91.409(e) requires owners/operators of certain large aircraft to select an inspection program under CASR Part 91.409(f). In turn, CASR Part 91.409(f) requires the owner/operator to use the program, which it selected and identified in the maintenance records of the aircraft. Therefore, the maintenance provider should use either the inspection program that the owner/operator has selected and identified in the aircraft maintenance records, or the most recent manufacturer's inspection program.
- d) **Program Availability.** Note that CASR Part 91.409(f) also requires each operator to include in its identification of the selected program the name and address of the person responsible for scheduling the inspections required by the program. The operator should make a copy of that program available to the person performing inspections on the aircraft and, upon request, to the DAAO.

NOTE: To comply with a regulatory requirement to incorporate the current manufacturer's recommended inspection program, an operator needs to only properly adopt a manufacturer's program that is "current" as of the time the operator selects and identifies it in the aircraft maintenance records. (See CASR Part 91.409(f).) The program remains current unless the DAAO mandates revisions to it in the form of an Airworthiness Directive (AD) or an amendment to the operating rules.

- e) **Airworthiness Directive (AD).** When the AMO is performing maintenance based on an AD, the AD is approved data. However, if the AMO is performing maintenance using an alternative method of compliance (AMOC), the AMO should ensure there is documentation verifying that the DAAO has approved the AMOC.
- f) **Air Carrier's Approved/Acceptable Data.** Each air carrier will have a process to approve data for major repairs or alterations. The air carrier has the responsibility to determine if the repair or alteration is major. Once the

air carrier determines the maintenance to be major, the air carrier should provide the AMO with documentation that the repair or alteration has approved data. The AMO may have access to other approved data applicable to the repair or alteration, but the air carrier must authorize the AMO to use that data if the AMO is performing maintenance for the air carrier.

- g) **Process Specifications.** The AMO may have a rating for specialized service. The air carrier should provide documentation authorizing the AMO to use its approved process specification on the air carrier product.
  - h) **Repair Specifications.** A repair specification provides an alternative to the methods, techniques, and practices contained in the current manufacturer's manuals, Service Bulletins (SB), or instructions for continued airworthiness (ICA). A repair specification is necessary when instructions for major repairs are required for multiple-use, non-serial-number specific, and non-design approval holder (DAH) repairs.
- 2) Verify that the technical data is appropriate for the maintenance or alterations that the AMO will perform.
  - 3) Verify that the data is current, accurate, and complete.
    - a) The AMO Manual procedure should describe how the revised technical data will be inserted into existing documents and how the appropriate individuals in the AMO will be notified about revisions.
    - b) If the AMOs use computer software for component testing, verify whether the revisions/updates are made and the current software is distributed.
  - 4) Verify that the data is in the certificate holder's possession and easily accessible to all personnel. Ensure that the technical data is accessible to employees of the AMO when they are performing maintenance and that the data is processed in accordance with the certificate holder's AMO Manual.
  - 5) For electronic technical data/manual(s), review the following concerns during the inspection.
    - a) Security and Access. Determine whether:
      - i. Only authorized personnel are making changes to the manual
      - ii. Unauthorized personnel are capable of making changes to the manual,
      - iii. The employees have been trained to access the manual on the network, and
      - iv. All of the supervisors and inspectors have access to the manual.

- b) Revisions. Determine the following:
    - i. How the manuals are revised within their system (CD-ROM or Internet),
    - ii. How the AMO distributes the revisions, If the user knows that the manual has been revised and what content was changed, and
    - iii. If personnel verify the currency of individual disks before use.
  - c) Additional Guidance See Chapter III (Record System).
- 6) Verify that the AMO distributed the controlled documents in accordance with the AMO Manual/QCM to include distribution, accountability, and availability.
- 7) Verify that all technical data (e.g., operator's ICA, manufacturer's maintenance manuals, or type-certificate holder's (TCH) continuous airworthiness data) that the AMO uses and retains is in English. This includes all alteration records, logbook entries, return to service (RTS) records, or any other maintenance or inspection record entries that demonstrate compliance with the requirements of CASR Part 43.9 or CASR Part 43.11.
- a) The AMO may convert technical data (e.g., the operator's ICA, manufacturer's maintenance manuals, or TCH's continuous airworthiness data) into the national language. Internal documents (e.g., workcards, worksheets, and shop travelers) may be produced and maintained in the national language. Dual language (English/national language) internal documents are acceptable.
  - b) All technical data translated into the national language and used to meet the requirements of part 43 should be current and accurate in translation.

NOTE: Customers who wish to receive English-language copies of any internal documents, such as those listed above, should address that requirement in their contractual agreement.

NOTE: The AMO must establish procedures in its AMO Manual/QCM that ensure that its English-language copy of technical data and any internal documents developed from this technical data are current and complete. The main base of the AMO should retain the English-language copy of the technical data and must make it available to the DAAO upon request.

- c) AMOs that are associated with or with part of a Production Approval Holder (PAH) facility often use the manufacturer's drawings and data to perform maintenance. This data may not meet the requirements of CASR Part 43.13(a). Caution these AMOs that parts manufactured by the production side of the facility must be DAAO-approved through a Parts Manufacturer Approval (PMA), Technical Standard Order (TSO), type certificate (TC), or other means.

- c. **Analyze Findings.** Upon completion of the inspection, record all deficiencies and determine the appropriate corrective action(s).
- d. **Conduct Debriefing.** Brief the certificate holder on the inspection results. Discuss any deficiencies and possible corrective actions.

**3) TASK OUTCOMES.**

- a. **Complete the Task.** Completion of this task will result in one of the following:
  - 1) Sending a letter to the operator confirming result of the inspection and initiating an enforcement Investigation, if necessary; or
  - 2) A satisfactory inspection with no deficiencies.
- b. **Document the Task.** File all supporting paperwork in the DAAO office file.

**4. FUTURE ACTIVITIES.** Schedule and conduct follow up inspections as applicable.

## CHAPTER VIII - QUALITY CONTROL / ASSURANCE SYSTEM

### 1. INTRODUCTION.

**a. Objective.** This chapter provides guidance for inspecting the quality control system / quality assurance system of an AMO to ensure compliance with the procedures in the AMO Manual /Quality Control Manual (QCM).

**b. General.**

- 1) The quality control system must be acceptable to the Directorate General of Civil Aviation (DAAO) in that it ensures the airworthiness of the articles on which the AMO (or any of its contractors) performs maintenance, preventive maintenance, or alterations.
- 2) The AMO must maintain an inspection system and describe the procedures in detail in its manual system. Items to be described include:
  - a) Establishing the purchase of aviation articles,
  - b) How that material is inspected upon receipt,
  - c) Receiving customer's articles,
  - d) Progressing through each inspection step, and
  - e) Ending in final inspection and approval for return to service.
- 3) This system will include the controlling and documenting of the maintenance from the incoming inspection to final inspection (work order system). The quality control system also includes a description of the qualifying and surveillance requirements of a noncertificated person.

NOTE: The phrase “noncertificated person” means a person or facility outside the AMO, and does not include a noncertificated individual working for the AMO.

- 4) AMO must maintain quality assurance system and describe the procedures in detail in its manual system. Items to be described include:
- a) Internal audit to monitor compliance with required regulation and procedure. The internal audit should cover all systems, processes, and products that are basic parts of the AMO's activities. There is no set list of items to be covered since each operation is unique, but a representative list of areas to evaluate would include:
    - i. Facilities and equipment.
    - ii. Station authority and limitations versus actual practice including controls over any deviation authority.
    - iii. Personnel qualifications, training, and staffing levels.
    - iv. Manuals and airworthiness data.
    - v. Continuity of work and supervision during personnel changes.
    - vi. Supplier selection, approval, and surveillance
    - vii. Parts and materials handling.
    - viii. Inspection and quality control processes.
    - ix. Tool adequacy and calibration.
    - x. Maintenance release process.
    - xi. Defect reporting.
    - xii. Records and recordkeeping procedures.
  - b) Corrective action resulting from the audit;
  - c) Establishment of continuous monitoring and improvement of the system.

## 2. PROCEDURES.

- a. **Review Applicable Information.** Before the inspection, the Principal Maintenance Inspector (PMI) or DAAO Inspector should carefully review:
  - 1) CASR Parts 43, 65, and 145,
  - 2) AMO Manual/QCM,
  - 3) Operations specifications (OpSpecs),

- 4) DAAO office file.
- b. **Verify the Contents of the QCM.** Verify the QCM contains, but is not limited to, the requirements in CASR Part 145.211(c) as listed below:
  - 1) A description of the system and procedures for:
    - a) Inspecting incoming raw materials for acceptable quality,
    - b) Performing preliminary inspections of all articles that are maintained,
    - c) Hidden damage inspection of articles that have been involved in an accident,
    - d) Proficiency of inspection personnel (see section 10 of this chapter, Inspect a CASR Part 145 AMO's Personnel),
    - e) Current technical data for maintaining articles (see chapter VII of this SI Technical Data),
    - f) Qualifying and surveilling noncertificated persons who perform maintenance or alterations for the AMO,
    - g) Performing final inspection and return to service of maintained articles,
    - h) Calibrating measuring and test equipment, and
    - i) 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) A sample of the inspection and maintenance forms and instructions for completing such forms or a reference to a separate forms manual.
  - 4) Procedures for revising the QCM required under this section and notifying the DAAO of the revisions, including how often the DAAO will be notified of revisions.
  - 5) Quality assurance system that include independent internal audit and quality feedback reporting system to accountable manager that ensures proper and timely corrective action is taken.
- c. **Check Inspection System.** Review a sample of the documents used during maintenance (travelers, work orders, inspection sheets, discrepancy sheets, etc.) as well as an inspection of the articles maintained. Confirm the AMO is performing and recording the following inspections in accordance with the AMO Manual/QCM by verifying the following:

- 1) All Inspection. Determine:
  - a) Whether the article is identified throughout the maintenance cycle, including parts contracted out to noncertificated persons,
  - b) When, where, and to what standard the inspection is done,
  - c) Who can perform the inspection,
  - d) Where, how, and on what form the results of the inspection are recorded, and
  - e) Disposition of the article after the inspection depending on each possible result.
- 2) Incoming Raw Materials Inspection. Verify:
  - a) Whether raw materials are identified in accordance with the definitions in the AMO Manual/QCM,
  - b) The traceability of the materials back to the original lot,
  - c) The handling of suspected unapproved parts, and
  - d) Whether shelf life and expiration dates are within limits.
- 3) Preliminary Inspection. Check for compliance with Airworthiness Directives (AD) and, if required, service bulletins associated with the AD requirement.
- 4) Hidden Damage Inspection. Verify that this inspection includes a search for any secondary damage that could have resulted from an accident such as fire or heat damage.
- 5) In-Process Inspection.
  - a) Determine if any additional maintenance, as described in a manufacturer's maintenance manual, is accomplished in accordance with AMO Manual/QCM.
  - b) Check for procedures for changing the steps in a process specification or accomplishing the tasks out of sequence.
- 6) Continuity of Inspection. Verify that:
  - a) If multiple shifts or consecutive inspectors are used, the procedures for continuing responsibility for maintenance in process are accomplished,
  - b) The status book, shift change log, or similar means used to track maintenance progress is used, and



c) Responsibilities are completed even if inspectors are absent.

7) Performing Final Inspection.

a) The inspector who is signing off the final inspection and/or approval for return to service for the AMO is authorized on the roster of inspection personnel and is appropriately certificated under CASR part 65 and meets the requirements of CASR Part 145.155.

NOTE: When certificated AMOs are outside the Republic of Indonesia, it is not a requirement for the inspection personnel to be certificated in accordance with CASR part 65. However, the requirements of CASR Part 145.155 do apply.

b) The AMO inspects then certifies that each article upon which it has performed maintenance, preventive maintenance, or alterations is airworthy with respect to the work performed.

c) When the final inspection is not satisfactory, corrective action is accomplished in accordance with appropriate data.

d. **Review Contract Facility Audits.** Verify that the AMO is qualifying and surveilling noncertificated persons who perform maintenance, preventive maintenance, or alterations for the AMO. The PMI should review the contracts and surveillance records and verify whether:

1) The noncertificated person has and uses a quality control system equivalent to that of the AMO for the work performed,

2) The AMO remains directly in charge of the work performed by the noncertificated person,

3) The contract the AMO has with the noncertificated person includes a requirement that the noncertificated person will allow the DAAO to inspect and observe the work performed for the AMO,

4) The AMO periodically performs and records audits of the noncertificated person to confirm the above-mentioned qualification, and

5) The AMO tests and/or inspects and records that the noncertificated person performed the work satisfactorily and that the article was airworthy before approving it for return to service.

e. **Review internal audit program.** The following are essential elements of an Internal Evaluation Program. Each of these should be described in a program document.

- 1) **Independency and well defined Responsibility.** As a part of identifying internal audit responsibility and independence, AMOs should identify Quality Control Manual resources and personnel to conduct the Internal audit program, and they should describe their organizational independence within the company in light of their internal audit functions. Individuals conducting internal evaluations should not be responsible for accomplishing or managing work in the areas being evaluated or the tasks being reviewed.
- 2) **Top Management involvement and accountability.** To be effective, an internal audit program must have the attention of top management regularly, not just when the program is initiated. Top management should review internal audit results to verify that satisfactory corrective actions have been implemented.
- 3) **Continual, structured process.** In order to effectively anticipate potential problem areas and correct them before actual findings occur, an internal audit program should be a continual, ongoing function. An internal audit is intended to be more than spot-check inspections of operating practices. Of and by themselves, spot-check inspections will do little more than identify symptoms of potential problems.
- 4) **A plan for scheduling evaluations.** It is essential for a AMO's Quality Assurance system to include a defined schedule of internal audit program. This planned schedule will serve to verify that the Internal audit program is comprehensive, well controlled, and timely. A published schedule also provides a vehicle for keeping management informed.
- 5) **Corrective action plans.** AMO should include procedures that ensure that corrective action plans arrived from the result of internal audit are developed in response to findings or concerns and for monitoring corrective action plans to verify their timely and effective implementation. Internal audit personnel should participate in the development of corrective action plans. However, organizational responsibility and accountability for the development and implementation of corrective action plans should reside with the technical departments cited in the finding or concern.
- 6) **Internal audit records.** The results of an internal audit and the review of internal audit information by top management should be documented in reports and other appropriate records, consistent with the process of internal reporting at the AMO. The AMO should decide upon the frequency, format, and structure for informing top management of internal

auditplans, results, and follow-up actions. It is recommended that the reporting structure also be documented by the AMO and become a part of its program plan.

7) **Specialized Training and Experience for Auditor.** The auditor that are used by the AMO should have training in the specific procedures used by the AMO as specified in part 145.159

- f. **Analyze Findings.** Upon completion of the inspection, record all deficiencies; determine the appropriate corrective action(s).
- g. **Conduct Debriefing.** Brief the certificate holder on the inspection results. Discuss any deficiencies and possible corrective actions.

### 3. TASK OUTCOMES.

a. **Complete the Task.** Completion of this task will result in one of the following:

- 1) Sending a letter to the operator documenting all deficiencies and initiating an enforcement investigation, if necessary, or
- 2) A satisfactory inspection with no deficiencies.

b. **Document Task.** File all supporting paperwork in the DAAO office file.

4. **FUTURE ACTIVITIES.** Schedule and conduct followup inspections as applicable.

## CHAPTER IX – PARTS AND MATERIALS

### 1. INTRODUCTION.

- a. **Objective.** This chapter provides guidance for receiving, protecting, segregating, and identifying all parts and materials required to support the ratings held.
- b. **General.** AMOs must have procedures in their AMO Manual/Quality Control Manual (QCM) describing the receipt and documentation of all articles, standard parts, and raw materials. In addition, the AMO is required to inspect raw materials and standard parts for:
  - 1) Proper documentation, identification and traceability,
  - 2) Conformity to a specification and acceptable quality,
  - 3) Shelf life,
  - 4) Contamination,
  - 5) Shipping damage, and
  - 6) State of preservation.

### 2 PROCEDURES.

- a. **Review Applicable Information.** Before the inspection, the Principal Maintenance Inspector (PMI) or DAAO Inspector should carefully review:
  - 1) CASR Parts 43 and 145,
  - 2) AMO Manual/QCM,
  - 3) Operations specifications (OpSpecs),
  - 4) DAAO office file

**b. Review Information on Parts and Materials.** Verify that all parts and materials meet the following requirements:

1) Storage and Protection.

- a) Verify if environmental requirements established by the Original Equipment Manufacturer (OEM) for the storage of parts and materials are being complied with (temperature, humidity, static, ultraviolet light exposure, etc.). Receiving/incoming inspection personnel must be familiar with these requirements.
- b) Confirm whether parts room articles and those items in process are identified to show:
  - i. Basic part information (name, make/model/serial number, batch or lot, etc.).
  - ii. Serviceability status of parts and materials in a manner that readily
  - iii. identifies serviceable parts and materials from unserviceable parts and materials.
  - iv. Rejected parts, including questionable parts, awaiting disposition.
- c) Verify the protection of parts and materials in storage and during transit in a manner that prevents damage, contamination, loss, or substitution until installation. Sensitive parts and equipment (e.g., oxygen parts, O-rings, or electrostatic sensitive devices) must be properly stored, packaged, identified, and protected from contamination and damage. Hazardous, flammable, or volatile materials and aircraft parts (e.g., fire extinguisher squibs) must be stored in flameproof cabinets or facilities.
- d) Verify that all parts are appropriately identified and segregated.

2) Life-Limited Parts.

- a) All life-limited parts must have up-to-date component times listed on the historical records or appropriate tags, as required. In addition, AMOs must clearly mark, monitor, and dispose of all items received with shelf-life limits and/or specific storage requirements in accordance with AMO Manual/QCM procedures.
- b) Disposition of life-limited parts.

3) Documentation/Traceability.

- a) Parts/materials receiving procedures provide for traceability to an approved source. The AMO should retain traceability records for all incoming articles.

NOTE: It is common to receive certain raw materials/standard parts in lots, which the AMO must break down into smaller quantities (hardware, sheet stock, welding rod, coating powders, etc.). In these cases, the AMO must be able to trace them back to the original lots. The AMO must have systems in place to ensure that only approved and traceable parts and materials are issued for maintenance performed.

- b) The AMO maintains a record of inspections and tests used to verify the airworthiness of received components.

- 4) Personnel Training. Receiving personnel comply with AMO Manual/QCM procedures to determine that incoming raw materials are of an acceptable quality. The AMO should conduct and document the training of receiving personnel in parts receiving/shipping, parts control, and detecting and reporting suspected unapproved parts (SUP).

NOTE: Inspectors should be alert to the activities of AMOs that dispose of scrap parts and materials and should review the AMO Manual/QCM procedures to verify that scrap parts and materials are disposed of in a manner that does not allow for their approval for return to service.

- c. **Check Procedures for SUP.** Review with AMO personnel the procedures used to detect and report SUPs. These procedures should identify those persons responsible for the administration of the SUP program; provide complete instructions on the completion and submission of DAAO Form 21-35, Suspected Unapproved Parts Notification; describe control of articles pending SUP determination; and outline training requirements of receiving personnel.
- d. **Analyze Findings.** Upon completion of the inspection, record all deficiencies; determine the appropriate corrective action(s).
- e. **Conduct Debriefing.** Brief the certificate holder on the inspection results. Discuss any deficiencies and possible corrective actions.

### 3. TASK OUTCOMES.

- a. **Complete the Task.** Completion of this task will result in one of the following:
  - 1) Sending a letter to the operator documenting all deficiencies and requesting
  - 2) corrective action.
  - 3) Initiating an enforcement investigation, if necessary.
  - 4) A satisfactory inspection with no deficiencies.

b. **Document the Task.** File all supporting paperwork in the DAAO office file.

#### 4. FUTURE ACTIVITIES.

Schedule and conduct follow-up inspections as applicable.

## CHAPTER X – PERSONNEL

### 1. INTRODUCTION.

- a. **Objective.** This chapter provides guidance for inspecting the AMO to verify that the requirements of Civil Aviation Safety Regulation (CASR) Part 145.151, are met.
- b. **General.** Each AMO must have the management personnel necessary for the scope and complexity of its organization. The regulation requires an accountable manager, supervisory personnel, inspection personnel, auditor and certificated personnel to approve the articles it maintains/alters for return to service.

It may be necessary for the AMO management structure to warrant additional supervisory personnel that are not required by regulation. In addition, an AMO is required to maintain a roster of managerial, supervisory, and inspection personnel. This list must include their qualifications and authority in the AMO.

This roster may be maintained in paper or electronic format, and must be accessible for review and inspection by the DAAO.

NOTE: An AMO located outside the Republic of Indonesia is not required to employ personnel that hold an DAAO certificate issued under CASR part 65. However, if employed by a AMO located outside the Republic of Indonesia, the personnel must have a minimum of 18 months of practical experience in the work performed. The personnel must be trained in or thoroughly familiar with the methods, techniques, practices, aids, equipment, and tools used to perform the maintenance, preventive maintenance, or alterations. All supervisory personnel must understand, read, and write English.

### 2. PROCEDURES.

- a. **Review Applicable Information.** Before the inspection, the Principal Maintenance Inspector (PMI) or DAAO Inspector should carefully review:
  - 1) CASR Parts 43, 65, and 145.

- 2) AMO Manual/Quality Control Manual (QCM).
- 3) Operations specifications (OpSpecs).
- 4) Directorate Airworthiness and Aircraft Operation (DAAO) office file.

**b. Review Personnel Requirements.** Check the following:

- 1) Certification. Verify whether each person authorized to approve an article for return to service under the AMO certificate and OpSpecs is certificated under part 65 and understands, reads, and writes English.

NOTE: All managers, inspectors, and supervisors must be authorized, qualified, and listed on the AMO's required roster(s).

- 2) Qualifications. Verify that the AMO personnel performing functions governed by existing industry standards are trained and qualified to that standard (for welding, nondestructive testing, heat treatment, etc.). In some cases these industry standards may be identified on the AMOs' OpSpecs.

a) Verify that inspectors identified on the AMO's roster:

- i. Maintain proficiency in using the various types of inspection equipment and visual inspection aids appropriate for the article being inspected.
- ii. Are thoroughly familiar with the regulations and with the inspection methods, techniques, practices, aids, equipment, and tools used to determine the airworthiness of the article on which maintenance, preventive maintenance, or alterations is being performed.
- iii. Understand, read, and write English.

b) Verify that all supervisors:

- i. Are on the roster.
- ii. Are properly certificated for the supervisor position held.
- iii. Understand, read, and write English.

- 3) Staffing. Considering the size and scope of the AMO, verify that it has a sufficient number of employees with the training or knowledge and experience in the performance of maintenance, preventive maintenance, or alterations authorized by the AMO's ratings.

- a) Verify if the certificated AMO has a sufficient number of supervisors, who are certificated under part 65 and are able to understand, read, and write English, to direct the work performed. The supervisors must also provide



oversight to those individuals who are unfamiliar with the methods, techniques, practices, aids, equipment, and tools employed.

- b) Verify whether the AMO determines the abilities of its noncertificated employees who perform maintenance functions based on training, knowledge, experience, or practical tests.

4) Roster/Summary. Confirm that the AMO has the following:

- a) A current roster of management and supervisory personnel.
- b) A current roster of all inspection personnel.
- c) A current roster of personnel authorized to sign a maintenance release for approving a maintained or altered article for return to service.
- d) A current summary of the employment of each individual whose name is on the personnel rosters required by CASR Part 145.161. The summary must include:
  - i. Present title.
  - ii. Total years of experience and the type of maintenance work performed.
  - iii. Past relevant employment with names of employers and periods of employment.
  - iv. Scope of present employment.
  - v. The type of license held and ratings on that license, if applicable.

NOTE: Within 5 business days of a change, the rosters required by CASR Part 145.161 must reflect changes caused by termination, reassignment, change in duties or scope of assignment, or addition of personnel.

NOTE: It is appropriate for a AMO to develop a combination roster. The roster could include initials, signatures, stamp numbers, certificate numbers, or any other information used to designate the authority of inspection or supervisory personnel. It could also list persons who can sign/stamp off work documents or approve articles for return to service.

- 5) Training. Review the training records of inspectors and supervisors to verify they have the required training for their job function. The records should also show how the AMO qualified these individuals.

**c. Analyze Findings.** Upon completion of the inspection, record all deficiencies; determine the appropriate corrective action(s).

**d. Conduct Debriefing.** Brief the certificate holder on the inspection results. Discuss any deficiencies and possible corrective actions.

**3. TASK OUTCOMES.**

**a. Complete the Task.** Completion of this task will result in one of the following:

- 1) Sending a letter to the operator documenting all deficiencies and initiating an enforcement investigation, if necessary
- 2) A satisfactory inspection with no deficiencies

**b. Document Task.** File all supporting paperwork in the DAAO office file.

**4. FUTURE ACTIVITIES.** Schedule and conduct follow up inspections as applicable.

## CHAPTER XI – TRAINING PROGRAM

### 1. INTRODUCTION.

- a. **Objective.** This chapter provides guidance for inspecting the AMO training program
- b. **General.** A certificated AMO that performs maintenance, preventive maintenance, and alterations on Indonesian-registered aircraft, airframes, engines, propellers, appliances, and component parts must have a training program that is approved by the Directorate General of Civil Aviation (DAAO). Each AMO's training program will be based on its individual operation and needs, considering its size, location, ratings, employee experience, and skill levels.

### 2. TRAINING PROGRAMS.

- a. The DAAO Inspector should keep in mind that an AMO located outside the Republic of Indonesia is not required to have any personnel who hold a certificate issued under Civil Aviation safety Regulation (CASR) part 65. However, the standards of capability for individuals approving an article for return to service are otherwise the same.

Also, the technical knowledge, skills, and abilities of those performing maintenance should be no different for engineers, inspectors, supervisors, or managers, regardless of where the AMO is located. Consequently, the DAAO expects these AMOs to have training programs that include the same basic elements as for AMOs located within the Republic of Indonesia, including a comprehensive needs assessment.

- b. When conducting the training needs assessment, the AMO should place special emphasis on an individual's ability to read, write, and understand the English language, as required by CASR. All documents and records related to employee training must be in English.
- c. AMOs located outside the Republic of Indonesia that hold an approval under other National Aviation Authority (NAA) approval or certificate, may already have a formal training program that satisfies the requirements of CASR part 145. In

some cases, these programs might exceed Republic of Indonesia requirements. For example, there are certain countries and/or authorities that require knowledge of human factors. Such additional requirements will not interfere with an DAAO approval of the training program as long as the program also meets all of the Republic of Indonesia requirements. Consequently, an AMO located outside the Republic of Indonesia does not have to maintain multiple programs; however, the training program must be DAAO approved.

### **3. INSTRUCTORS.**

The AMO should set the basic standards for any instructor, whether a AMO employee, someone hired temporarily, or an instructor providing an outside training course/lesson. The AMO should have a procedure for evaluating and qualifying instructors.

### **4. PROCEDURES.**

**a. Review Applicable Information.** Before the inspection, the Principal Maintenance Inspector (PMI) or DAAO Inspector should carefully review:

- 1) Parts 65 and 145.
- 2) Operations specifications (OpSpecs).
- 3) The AMO's approved training program.
- 4) Directorate Airworthiness and Aircraft Operation (DAAO) office file.

**b. Review Approved Training Program.** Verify:

- 1) The AMO is operating in accordance with a current training program approved by the DAAO.
- 2) That both initial and recurrent training is conducted in accordance with the approved training program.
- 3) That each employee assigned to perform maintenance, preventive maintenance, alternations, and inspections has received training, which is documented in the AMO's training records, commensurate to the employee's job description.
- 4) The AMO training is documented and records are maintained in accordance with the AMO Manual/Quality Control Manual (QCM) procedures. These training records must be retained for a minimum of 2 years.
- 5) Any revisions to the AMO's approved training program are submitted in accordance with AMO Manual procedures.

NOTE: The training program itself may be documented in the AMO Manual or it may be a separate document. An advantage to having the training program in a separate document is that it provides separation for the training program approval requirement from the nonapproved AMO Manual/QCMs.

- 6) The AMO has procedures to provide and thoroughly document on-the-job training.
  - 7) The AMO has not revised its training program without sending the revision to the DAAO and PMI for approval.
  - 8) Who is responsible, by title, for the training program and the retention of the records.
- c. Determine Whether the Training Curriculum is Appropriate.** The PMI does not approve the curriculum for the AMO. However the PMI should verify the curriculum is appropriate for the employee job and work assignment. If the DAAO Inspector discovers problems with personnel qualification in any shop area, then that DAAO Inspector should evaluate the curriculum for that shop area.
- d. Check Instructor Qualifications.** Verify if the AMO has a procedure for evaluating and qualifying instructors. The following should be considered in determining whether an instructor is appropriate:
- 1) Appropriate background for subject area (such as formal training and/or experience)
  - 2) Teaching ability—the ability to impart information on the particular subject matter
- e. Analyze Findings.** Upon completion of the inspection, record all deficiencies and determine the appropriate corrective actions.
- f. Conduct Debriefing.** Brief the certificate holder on the inspection results. Discuss any deficiencies and possible corrective actions.
- 5. TASK OUTCOMES.**
- a. Complete the Task.** Completion of this task will result in one of the following:
- 1) Sending a letter to the operator documenting all deficiencies and initiating an enforcement investigation, if necessary
  - 2) A satisfactory inspection with no deficiencies
- b. Document Task.** File all supporting paperwork in the DAAO office file.
- 6. FUTURE ACTIVITIES.** Schedule and conduct follow up inspections as applicable.

## CHAPTER XII – MAINTENANCE PROCESS

### 1. INTRODUCTION.

- a. **Objective.** This chapter provides guidance for conducting a detailed process/task inspection by analyzing the data, materials, and parts used in the aircraft maintenance and alterations process.
- b. **General.** A detailed process/task inspection is a surveillance activity that will examine one or more specific tasks that are associated with the maintenance and alteration of an airframe, aircraft engine, propeller, appliances, and/or component parts.

### 2. PROCEDURES.

- a. **Review Applicable Information.** Before the inspection, the Principal Maintenance Inspector (PMI) or DAAO Inspector should carefully review:
  - 1) CASR Parts 43, 65, and 145.
  - 2) AMO Manual/Quality Control Manual (QCM).
  - 3) Operations specifications (OpSpecs).
  - 4) Directorate Airworthiness and Aircraft Operation (DAAO) office file
- b. **Identify the Process/Task To Be Inspected.**
  - 1) The PMI/ DAAO Inspector should identify the process/task to be inspected, and identify those documents (travelers, task cards, work orders, maintenance/component maintenance manuals, etc.) that will verify the use of approved or accepted data, materials, tools, etc.
  - 2) Inform the appropriate management personnel as to what particular process/task will be observed during the inspection. Inform the person in authority of the inspection criteria and the areas that will be verified.

NOTE: During this inspection, pay particular attention to any deviations from approved data or procedures.

**c. Conduct the Process Review.** The following steps serve as a guide to the PMI/DAAO Inspector in performing a process/task inspection. Certain steps may not be appropriate, depending on the complexity of the AMO. Inspect/review the following, as applicable:

1) **Procedures/Methods/Systems.** Determine whether these:

- a) Have been prepared for all processes.
- b) Reflect the technical data contained in appropriate maintenance manuals or other approved documents.
- c) Define and accept/reject criteria, required tools, test equipment, inspection equipment, details of method of inspection to be performed, and tolerance limits, as applicable.
- d) Denote and detail the function to be performed, sequence of operations, and inspection points to ensure proper handling of products from one station to another through all phases.
- e) Have been approved, controlled, and documented after revisions are made.
- f) Maintain traceability after completion of all operations.

2) **Inspection Systems.** Determine that:

- a) Inspection records (indicating the number of inspections made, conformance or nonconformance, and the action when the product is nonconforming) are maintained.
- b) When required, reinspection/retests are performed following rework.
- c) Assemblies are inspected for conformity before closure.
- d) All required inspections and tests have been satisfactorily accomplished before final acceptance of the completed products/parts.
- e) Personnel performing required inspection items inspections for an air carrier are identified and authorized by the carrier.
- f) Inspection personnel are not exceeding their area of authority.
- g) Internal audits are conducted to verify compliance with Directorate General of Civil Aviation (DAAO)-approved or acceptable data, and appropriate procedures.

3) **Technical Data.** Confirm that:

- a) Personnel are provided with current technical data and changes. Inapplicable,
  - b) inappropriate, illegible, or obsolete data is removed from areas of potential use.
  - c) Nondestructive inspection (NDI) processes are reviewed for conformance with DAAO-approved data.
  - d) Process specification changes are submitted to the DAAO for evaluation and approval.
  - e) Tags, forms, and other documents used are controlled.
- 4) **Major Repairs and Alterations.** Verify that:
- a) If the task involved is a major repair or major alteration, that DAAO-approved data was used to accomplish the task.
  - b) The DAAO-approved data has been documented on DAAO Form 43-337 as appropriate,
- NOTE: Any DAAO-approved data procured by the AMO for use on CASR Parts 121, 129, and 135 aircraft must be in accordance with the air carrier's manual.
- 5) **Materials/Parts.** Determine whether:
- a) The materials, test records, and standards used in NDI are identified and controlled.
  - b) When required, special identification and controls for materials or parts are identified and are in place before the materials/parts are used.
  - c) When required, special handling and storage requirements for materials and parts are identified and used.
  - d) There is traceability of material or parts received from distributors and that the records of receiving inspection data are retained and list the name, part number, quantity, and inspection results.
- 6) **Tools and Test Equipment.** Confirm that:
- a) When required, special tools and test equipment are identified and used for an operation or process.
  - b) Calibration records are maintained for all tools and test equipment requiring calibration.



c) The facility's personnel are trained appropriately for their assignments.

7) **Additional Considerations.** Verify that:

a) Shift turnover procedures are in place and are being complied with.

b) Adequate numbers of personnel trained, qualified, and authorized to perform the specific task are available throughout the maintenance process.

c) As work is routed through the facility, it flows through the process with no interruptions due to personnel, facilities, or parts/materials availability that might affect airworthiness.

**d. Analyze Findings.** Upon completion of the inspection, record all deficiencies and determine the appropriate corrective action(s).

**e. Conduct Debriefing.** Brief the certificate holder on the inspection results. Discuss any deficiencies and possible corrective action.

### 3. **TASK OUTCOMES.**

**a. Complete the Task.** Completion of this task will result in one of the following:

1) Sending a letter to the operator documenting all deficiencies and initiating an enforcement investigation, if necessary

2) A satisfactory inspection with no deficiencies

**b. Document Task.** File all supporting paperwork in the DAAO office file.

4. **FUTURE ACTIVITIES.** Schedule and conduct follow up inspections as applicable.

## CHAPTER XIII - WORK OTHER THAN FIXED LOCATIONS

### 1. INTRODUCTION.

- a. **Objective.** This chapter provides guidance for authorization and surveillance of a CASR part 145 AMO that performs aircraft maintenance away from its fixed location.
- b. **General.** The following are the circumstances that allow a part 145 AMO to do work away from the station:
  - 1) **Special Circumstances.** When a special circumstance arises that allows work to be done away from the AMO on a temporary basis.
    - a) **Temporary Basis—Short Term.** When a special circumstance arises such as a blown tire, radio, or navigation equipment changes, etc.
    - b) **Temporary Basis—Extended.** When the repair or alteration requires the AMO to make repairs or alterations over an extended period, e.g., the aircraft is in for extended maintenance and an interior shop is requested to install a new interior at that location.
  - 2) **Recurring Basis.** When it is necessary to perform such work on a recurring basis with operations specification (OpSpec) authority.

NOTE: Working away from the AMO is not equivalent to line maintenance or a geographic authorization.

NOTE: The circumstances in subparagraphs 1) above require the AMO to submit a request to the Principal Maintenance Inspector (PMI) / DAAO Inspector for evaluation on a case by case basis, except for emergency short term work when the AMO has a procedure in its manual. In this case, the AMO only needs to notify the PMI in accordance with the procedure.

### 2. PROCEDURES.

- a. **Review Applicable Information.** Before the inspection, the Principal Maintenance Inspector (PMI) or DAAO Inspector should carefully review:
  - 1) CASR Part 145.

- 2) The AMO Manual / Quality Control Manual (QCM) procedures on work away from the station.
- 3) OpSpec, if authorized.

NOTE: OpSpec will only be issued for those AMOs that perform repairs or alterations on a recurring basis. For example, engine on wing repair, nondestructive testing, tank, and fuel cell repair.

- 4) Directorate Airworthiness and Aircraft Operation (DAAO) office file

**b. Inspect a AMO Performing Work Away From the Fixed Location Under Special Circumstances.**

- 1) Temporary Basis—Short Term.

- a) Review the AMO procedures to verify that procedures are in place to:

- i. Control equipment, tools, required forms, etc.

- ii. Ensure qualified personnel for the required work.

- iii. Conduct emergency work away from the station. The procedure should contain an explanation of emergency work away from station as it relates to the AMO ratings. The procedures should detail how the DAAO is notified; if approval is required, they must be notified before dispatching the work crew.

- b) The AMO must be able to provide written documentation that reflects the air carrier's method for the acceptance of all AMO programs, and the AMO's standard operating procedures (SOP) to ensure all maintenance is performed in accordance with the air carrier's Continuous Airworthiness Maintenance Program (CAMP). The air carrier must be informed of all contracted out work and if the maintenance provider must be inspected by the air carrier's Continuing Analysis and Surveillance System (CASS) auditors and all findings corrected before work is performed.

NOTE: It may not be necessary for the PMI / DAAO Inspector to approve each short term temporary situation; however, all situations will require the PMI / DAAO Inspector to be notified.

- 2) Temporary Basis—Extended.

- a) Contracted maintenance that is authorized by the DAAO may require several months to complete; this type of operation does not constitute the establishment of another AMO or a satellite AMO because it is temporary in nature.

- b) The AMO requesting to perform maintenance away from its fixed location for extended periods of time must evaluate the housing and facilities where the maintenance is to be performed to ensure the location meets the intent of CASR part 145.
- c) If additional time is needed, the AMO must submit another request updating the original information and providing any new details on the contracted maintenance.
- d) Review the AMO procedures to verify that the procedures will:
  - i. Control equipment, tools, required forms, etc.
  - ii. Ensure qualified personnel for the required project.
  - iii. Provide the DAAO with a plan on how and where the project will be performed, to include: Controlling of parts; Tools; Personnel; Required inspectors; Length of time the project will take; and Title of the person in charge of the project.

NOTE: The PMI / DAAO Inspector must approve extended temporary projects before the crews are sent and must have a start date and an estimated completion date. The PMI / DAAO Inspector should only approve this request after ensuring the AMO will be able to control the project as if it were being completed at the home station.

**c. Inspect an AMO Doing Work Away From the Fixed Location on a Recurring Basis.**

- 1) Verify that the procedure for performing work away from the station on a recurring basis is clearly defined in the AMO Manual/QCM. OpSpec must reference the section and chapter where these procedures are located in the AMO Manual/QCM.
- 2) Review all work packages completed away from station to confirm the work was completed per the procedures in the AMO Manual /QCM. CASR Part 145 does not allow continuous, uninterrupted maintenance or alteration operations to be performed at another location.
  - a) Verify that the AMO furnished its own tools and equipment. The AMO can have a lease agreement for tools and equipment if the procedures are contained in the AMO Manual.
  - b) Verify that after the contracted maintenance is completed, the AMO transported its tools, equipment, and personnel back to its fixed location.
  - c) Verify that the AMO maintained a permanent fixed location even if the majority of its work is done at another facility.

- 3) Verify the AMO Manual contains procedures for the following:
    - a) Transporting tools and equipment to and from the work site without damage;
    - b) Ensuring that only qualified personnel are assigned to perform, supervise, and inspect the work completed; and
    - c) Ensuring that all air carrier maintenance programs are followed.
  - 4) Verify the AMO is following its quality control system, and confirm that:
    - a) All forms are properly completed per the quality control system;
    - b) The AMO follows their calibration system for calibrated tools; and
    - c) All parts are stored and protected as required in the quality control system.
  - 5) Verify that the AMO only uses approved data.
  - d. Analyze Findings.** Upon completion of the inspection, record all deficiencies; determine the appropriate corrective action(s).
  - e. Conduct Debriefing.** Brief the certificate holder on the inspection results. Discuss any deficiencies and possible corrective actions.
- 3. TASK OUTCOMES.**
- a. **Complete the Task.** Completion of this task will result in one of the following:
    - 1) Sending a letter to the operator documenting all deficiencies and initiating an enforcement investigation, if necessary
    - 2) A satisfactory inspection with no deficiencies
  - b. **Document Task.** File all supporting paperwork in the DAAO office file.
- 4. FUTURE ACTIVITIES.** Schedule and conduct follow up inspections as applicable

## CHAPTER XIV – CONTRACT MAINTENANCE

### 1. INTRODUCTION.

a. **Objective.** This chapter provides guidance for inspecting a CASR part 145 AMO's contract maintenance program.

b. **General.**

- 1) **Type of Inspection.** Conduct this inspection because either a work program requirement, a previous surveillance effort, allegations of improper maintenance, or component failure trends call for it. The inspection may be comprehensive and in-depth, or focused and cover a specific area or job function.
- 2) **Policy Review.** The Principal Maintenance Inspector (PMI) or DAAO Inspector should carefully review the regulations and applicable DAAO policy prior to the visit. The DAAO advises that the inspector place special emphasis on the facility maintenance and inspection personnel's training records. The inspector must accomplish a verification of training. The contractors must receive training and have the qualifications to perform the contracting AMO's job tasks.
- 3) **CASR Part 145 Requirements.** When providing services to a contracting AMO, the contract maintenance provider must meet all requirements of part 145, CASR Part 145.217.

NOTE: The regulations allow a AMO to contract any maintenance, preventive maintenance, or alteration for which it holds a rating CASR Part 145.201(a)(2)). For the purpose of this chapter, contracting is defined as work performed by DAAO certificated or noncertificated entities when the originating AMO assumes responsibility for the work performed by issuing an approval for return to service (RTS). A contract maintenance provider for a maintenance function must not provide a complete repair of a type-certificated (TC) product. The DAAO must approve all contract maintenance functions, whether to a certificated or noncertificated provider.

- 4) **Maintenance Procedures.** All AMOs that contract maintenance must have procedures in their AMO Manual that explain how to accomplish this maintenance. There should be procedures for both sending the product out to

the contract maintenance provider and receiving the product back into the AMO. Make sure each procedure includes details explaining who, what, when, where, and how.

There should be procedures on how to carry out specific repair instructions and the steps that the contractors should follow to ensure they accomplish the instructions. There should be detailed procedures on how the receiving AMO should inspect the work to assure that the contractors accomplish the work in accordance with AMO work scope, manufacturers specifications, and if applicable, DAAO-approved data.

- 5) **Contract Maintenance Functions.** The PMI/ DAAO Inspector will verify that the AMO has provided the DAAO a copy of all contract maintenance functions for approval, and a list of the contractor maintenance providers that will provide those services for the AMO. Only the functions list must be approved.
- 6) **Air Carrier Maintenance Instructions.** Each AMO that sends maintenance to a contract provider must assure that if the product is from an air carrier that the contract maintenance provider receives and follows all air carrier maintenance instructions for that product.

## 2. PROCEDURES.

a. **Review Applicable Information.** Before the inspection, the Principal Maintenance Inspector (PMI) or DAAO Inspector should carefully review:

- 1) CASR Parts 43 and 145.
- 2) The AMO Manual / Quality Control Manual (QCM)
- 3) Operations specifications (OpSpecs).
- 4) Directorate Airworthiness and Aircraft Operation (DAAO) office file.

b. **Review the AMO Manual / Quality Control Manual (QCM).** Review the AMO Manual/QCM procedures for maintaining and revising the contract maintenance function information required by CASR Part 145.217. The information required includes the approved maintenance functions the AMO will contract and the name of each certificated and noncertificated contract facility. The list of contractors is not DAAO-approved but the list must be in a format acceptable to the DAAO.

NOTE: The DAAO approves all maintenance functions contracted to both certificated and noncertificated facilities that are within the scope of the AMO's ratings.

- c. **Review the Maintenance Functions Facilities List.** Review a representative sample of the maintenance records to verify the AMO is only contracting to the facilities identified on the AMO's contract maintenance list.
- d. **Check Records for Certificated Facility.** If the AMO contracts a maintenance function to a certificated facility, verify whether:



- 1) All maintenance functions sent to certificated contractors are on the approved list.
- 2) There is a list of each outside facility (with function identified) to whom the AMO contracts maintenance. The list must include the name of the facility and the type of certificate and ratings.
- 3) All certificated facility items are returned to the AMO through the receiving inspection in accordance with the procedures in the quality system manual.

**e. Review Records for a Noncertificated Facility.** If the AMO contracts a maintenance function to a noncertificated facility, verify whether:

- 1) All maintenance functions sent to noncertificated contractors are on the approved list.
- 2) The AMO ensures that all noncertificated persons performing contract maintenance functions follow a quality control (QC) system equivalent to the system followed by the AMO.
- 3) The AMO verified, through testing and/or inspection, all work performed by noncertificated persons is satisfactory and airworthy in accordance with the AMO Manual/QCM.
- 4) The AMO approves for RTS articles that have been maintained by noncertificated contract maintenance providers in accordance with the AMO Manual/QCM.
- 5) The certificated AMO remains directly in charge of the noncertificated facility work.
- 6) The AMO is qualifying the noncertificated facility in accordance with the AMO Manual/QCM.
- 7) The AMO has provisions that will allow the DAAO to inspect and observe the noncertificated facility's work on that article.
- 8) The inspectors have the appropriate technical data to determine airworthiness.
- 9) The inspectors are properly trained and qualified to determine airworthiness.

NOTE: The AMO rule already prohibits a AMO from maintaining any article for which it is not rated.

**f. Review the AMO's QC System.** For certificated and noncertificated contractors, the PMI / DAAO Inspector should consider:

- 1) The procedures the AMO uses to obtain approval for the maintenance function.
- 2) The AMO's procedures to qualify the contractor.
- 3) The AMO's procedures for accomplishing contract surveillance if it is a noncertificated AMO.
- 4) The procedures to properly maintain the contractor list.
- 5) The technical training on contracted functions for the AMO's receiving inspection personnel.
- 6) Whether the AMO's procedures for receiving inspections provide enough technical detail to determine the airworthiness of an article.
- 7) The currency of the list of maintenance functions for which the AMO has the housing, facilities, equipment, and materials "in-house" but may need to contract to another facility because of workload or emergency situations.
- 8) Whether the method by which a maintenance function is added to the DAAO-approved list on an emergency basis is in accordance with the AMO's AMO Manual/QCM.
- 9) Whether the AMO personnel, that inspect contract maintenance sources, are trained.
- 10) Whether the maintenance is performed in accordance with CASR Parts 43.13, 43.15, and 43.16.

NOTE: The AMO can not just give a copy of its QCM to the noncertificated contractor and assume the proper procedures will be followed. The certificated AMO must provide adequate surveillance to ensure its QC procedures are followed.

NOTE: Contracting out maintenance functions should not replace the need for adequately staffed and trained maintenance personnel. PMIs should pay careful attention to AMOs that constantly revise the maintenance function list on an emergency basis to complete work in a timely manner. PMIs should verify that AMOs have the necessary trained personnel for the scope and complexity of the ratings they hold.

- g. Inspecting Certificated Contractor.** When reviewing work that was sent to a contractor, the PMI / DAAO Inspector should verify the procedures in the AMO Manual will ensure the contractor is rated for the work to be performed and the article is listed on the OpSpecs or capability list of the contracted facility. The PMI/DAAO Inspector should also accomplish the following:

- 1) The work should be spot-checked to ensure the contracted AMO is not providing a complete repair for a TC'd product. The contracting AMO must complete additional maintenance (refer to CASR Part 145.217(c)).
  - 2) Verify the return of all required documents with the article and the filing of the complete records retained by the AMO.
  - 3) Verify the inclusion of all repair records in the records sent to the end user of the article. Review the incoming receiving inspection procedures to ensure that each article returning after maintenance has the required documents and receives proper inspection.
- h. Inspecting Noncertificated Contractor.** The PMI/DAAO Inspector should review the AMO Manual procedures that explain how to use noncertificated repair facilities. The procedures should address the contractors' QC system, which must be equal to that of the AMOs. The PMI/DAAO Inspector should inspect the documents used to verify the noncertificated contractors' quality system. The PMI/DAAO Inspector should:
- 1) Verify that the AMO provides the noncertificated facility with all of the procedures to properly complete the requested maintenance. This could include: plating procedures, blueprints, and all data necessary to do the work.
  - 2) Verify with training records that each inspector who will inspect the article when it returns has the training or qualifications required to properly inspect the article to assure it meets all Airworthiness requirements and that the noncertificated contractor completed the work per the instructions and data provided to the noncertificated facility.
  - 3) Ensure that the AMO has on file a letter authorizing the DAAO to inspect each noncertificated facility the AMO contracts with. Refer to CASR Part 145.223(b) when that facility is performing work for the AMO.
  - 4) Coordinate with the accountable manager to arrange an inspection if the PMI/DAAO Inspector determines the need to inspect the noncertificated facility. The onsite inspection of a noncertificated facility is not a complete base inspection of that facility. This inspection determines if that facility has the housing and facilities, tools and equipment, adequate personnel, knowledge, and appropriate technical data to complete the work for which it was contracted. The inspector should verify that the facility has a QC system in place and is following the procedures the AMO provides. Address all discrepancies noted to the AMO for correction.
- i. Analyze Findings.** Upon completion of the inspection, record all deficiencies and determine the appropriate corrective action(s).
- j. Conduct Debriefing.** Brief the certificate holder on the inspection results. Discuss any deficiencies and possible corrective actions.

**3. TASK OUTCOMES.**

- a) **Complete the Task.** Completion of this task will result in one of the following:
- 1) Sending a letter to the operator documenting all deficiencies and initiating an enforcement investigation, if necessary
  - 2) A satisfactory inspection with no deficiencies
- b) **Document Task.** File all supporting paperwork in the DAAO office file.

**4. FUTURE ACTIVITIES.**

- a. Follow up or unsatisfactory findings require an inspector to track the corrective actions using the appropriate certification
- b. Schedule and conduct a follow up inspection, as applicable.