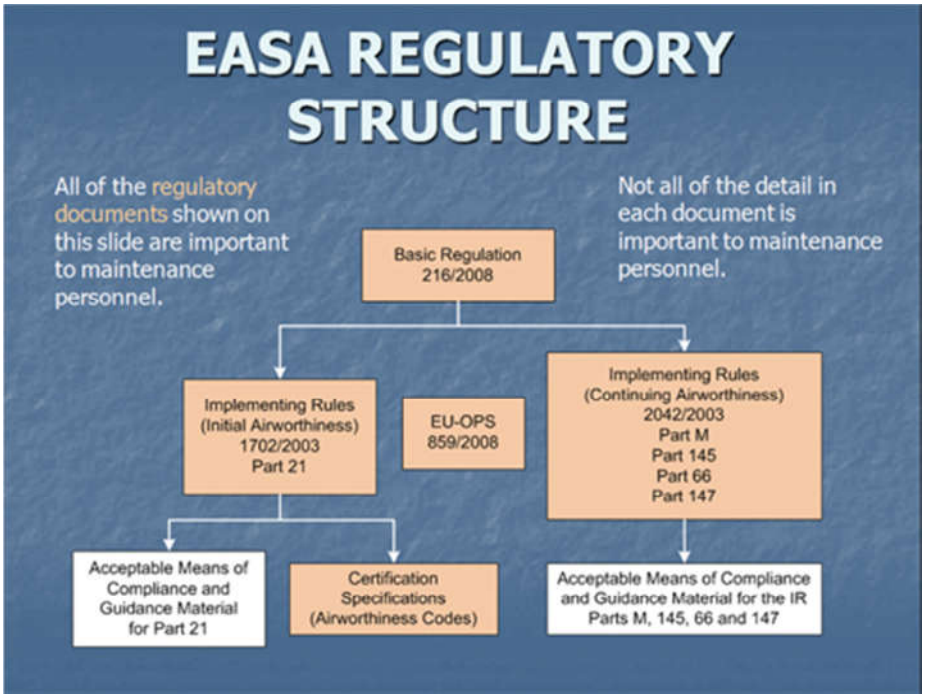
Development of EASA Part 145 MRO and CAAM Part 145 (Notice 6501)

1.0 Background

There is initial airworthiness and continuing airworthiness. The initial airworthiness is about the aircraft design complying with its design requirements and the aircraft is in condition for safe operation. The continuing airworthiness by ensuring the aircraft is maintained in accordance the maintenance program approved by the Continuing Airworthiness Management Organization (CAMO) in accordance with EASA Part M Subpart G, the aircraft is maintained by the Approved Maintenance Organization (AMO) Part 145 or Part M Subpart F and the maintenance personnel are trained to the EASA Part 66 Syllabus by the Approved Training Organization (ATO) Part 147.



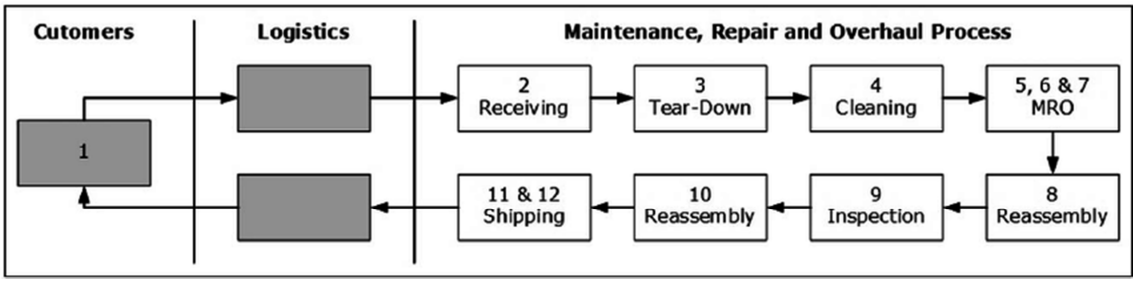
Aircraft and aircraft parts and components in service will encounter damage or premature defects and failures. These parts and components must be repaired to keep them airworthy. The repair must be carried out by competent organization, which must have the appropriate legitimate company, organization, personnel, facilities, and having access to appropriate maintenance data. The organization must possess an appropriate Quality Management System (QMS) to maintain the approval. ACE (Advanced Continuing Education) of UniKL MIAT provides the necessary competency development and QMS documentation preparation for the organization plan to acquire the AMO Part 145. We offer unique services, hand holding coaching and workshops for the organizations. It is not just classroom training, the participants will actively work to establish the necessary documentation as well as building the competencies as a AMO.

2.0 Training and Coaching

The training is a coaching session working together with the company teams for part 145 approval to acquire the knowledge in Air Legislation, Human Factors, SMS (Safety Management System), Part 145, Aircraft and Aircraft Components Airworthiness, Audit techniques, in parallel to develop the detail SOP (Standard Operating Procedures) with the team.

2.0 Programs

The following is the basic workflow of a MRO. The program is designed based on the following flowchart.



The following are the training and coaching program, together to develop the QMS and SOP for the Part 145;

- Air Legislation (3 days)
- Part 145 Legislation (3 days)
- Part 145 QMS
    - ☐ Organization and Personnel Requirements (2 days)
    - ☐ Risk Management (2 day)
    - ☐ Incoming Materials (2 days)
    - ☐ Vendors Suppliers (2 days)
    - ☐ Maintenance Data (worksheet) (2days)
    - ☐ Production Planning (2 days)
    - ☐ Tools controls (2 days)
    - ☐ Form 1 Release (1 days)
- AS9110 (Introduction) (1 days)
- SMS (2 days)
- Human Factors (2 days)
- Audit and Surveillance and Occurrences (2 days)

The man-days are based on coaching and training, it does not include the man hours of ACE UniKL MIAT to independently work on the QMS (i.e. Exposition and SOP). The coaches or trainer will provide the tutorial to the team of staff working to develop the QMS.

3.0 COURSE FEE / CONTACT PERSON

Please contact En Md Hafis Khairuddin, Head of Section (HOS), ACE at email: hafis@unikl.edu.my and phone or whatsapp at 0192985707 or Siri Famiza Mazlan, Administrative Officer, ACE UniKL MIAT at email: sitifamizam@unikl.edu.my and phone or whatsapp 0123092494.

2.1 Air Legislation (3 days)

Course Description

This course will provide the participants to under the Malaysia Legislation Framework. Thi course will cover the basis of our regulations, which was the ICAO (International Civil Aviation Organization) convention articles and Standards' Recommended Practices (SARPs). The SARPs are published in 19 Annexes. Malaysia Civil Aviation Act 1969 mandated the ministry to make laws, which is in Malaysia Civil AViation Regulation (CAR) 2016. There are Notices, Circulars, Information, Directives and Requirements published as subsidiary regulations. The course will also cover the aspect of State Aircraft, since the company's primary customer could be the armed forces.

Course Learning Outcomes

The participants will be able

- to understand the regulations, which they need to show compliance to acquire and maintain the approvals.
- For the post holders, to prepare for the interview to be approved as post holders.

Course Structure

It is 3 days courses including an assessment at the end of the sessions;

- **Day 1:** Chicago Convention, Convention Articles, ICAO (International Civil AViation Organization) SARPs (Standard and Recommended Practices), Malay Legislation Framework, Malaysia Civil Aviation Act 1969, State aircraft

- **Day 2:** Malaysia Civil AViation Regulations 2016, subsidiary legislation (Directives, Information, Circulars, Notices, and Requirements)

- **Day 3:** Regulations Mapping (ICAO Annexes, Malaysia CAR 2016, Subsidiary Legislation), Assessment (100 MCQ)

Course Duration

- Full time: 3 days
- Time: 0900-1630

Certificate Awarded

UniKL MIAT Certificate

Course Delivery Methodology

Lecture, Classroom discussions, Group discussions, Case studies

---

2.2 Part 145 - AMO (Approved Maintenance Organization) - 3 days

Course Description

The Civil Aviation Authority (Civil or States Aircraft) only allowed approved maintenance organization (AMO) to maintain the aircraft under their responsibility. For the civil aircraft legislation, the CAAM refers to Notice 6501 MAINTENANCE ORGANISATION APPROVAL (DCAM PART 145) and for less complex components and aircraft weight less than 5700 Kg,

the CAAM will refer to NOTICE 6502 Limited Maintenance Organisation Approval (DCAM Part M Subpart F). In principle, the basic requirements are almost identical.

Course Learning Outcomes
The participants will be able

- To understand the legislation framework of Part 145 AMO
- To understand the prerequisite to be approved as AMO
- To understand basic fundamental of DGTA PU 2103 2nd Edition NO. SALINAN .....TENTERA UDARA DIRAJA MALAYSIATECHNICAL AIRWORTHINESS MANAGEMENT MANUAL

Course Structure
It is 3 days courses including an assessment at the end of the sessions;

- **Day 1:** ICAO SARPs Annex 8 - Aircraft Airworthiness, Annex 6 - Aircraft Operations, Civil Aviation Legislation (Civil Aviation Act, Civil Aviation Regulations 2016 and subsidiary Legislations.

- **Day 2:** Part 145 (CAAM Notice 6501 and 6502, organization, facilities, personnel, audits, records,

- **Day 3:** MEO, Maintenance Releases, Audit and Surveillance, (100 MCQ)

Course Duration

- Full time: 3 days
- Time: 0900-1630

Certificate Awarded
UniKL MIAT Certificate

Course Delivery Methodology

Lecture, Classroom discussions, Group discussions, Case studies

---

2.3 ICAO Annex 19 - SMS (Safety Management System) (Notice 2101) - 2 days

Course Description
Safety is paramount in aviation, the ICAO specifically published an SARPs (Annex 19) on safety. ICAO Annex 19 is SAFETY MANAGEMENT. The Annex 19 comprises of the states safety program SSP and organization safety management system SMS. This course will focus on the organization elements and implementation. The elements are Safety policy and objectives, Safety Risk Management, Safety Assurance, and Safety promotion.

Course Learning Outcomes
The participants will be able

- To understand the concept of safety.
- To understand SSP and SMS
- To understand the SMS elements

- To understand means to implement SMS

Course Structure
It is 2 days courses including an assessment at the end of the sessions;

- **Day 1:** ICAO Annex 19, Malaysia CAR 2016, CAAM Notice 2101

- **Day 2:** SMS elements implementation, Risk management, audit and surveillance, Assessment (100 MCQ)

Course Duration
- Full time: 2 days
- Time: 0900-1630

Certificate Awarded
UniKL MIAT Certificate

Course Delivery Methodology
Lecture, Classroom discussions, Group discussions, Case studies

---

2.4 Audit Techniques (1 day)

Course Description
Audit and surveillance is the key factor in ensuring the organizations are always complying with the regulatory requirements, and ensuring the organizations approval remain valid. This course provides the knowledge to prepare, conduct and prepare audit report.

Course Learning Outcomes
The participants will be able
- To have the knowledge and skill to plan and conduct audit
- To to report the non compliance findings

Course Structure
It is one days courses including an assessment at the end of the sessions;

- Audit plan, pre-audit meeting, audit checklist, conduct audit, audit reports, post audit briefing, and follow up on noncompliance.

Course Duration
- Full time: one days
- Time: 0900-1630

Certificate Awarded
UniKL MIAT Certificate

Course Delivery Methodology
Lecture, Classroom discussions, Group discussions, Case studies

Contact Person
Please contact

- En Md Hafis Khairuddin, Head of Section (HOS), ACE at email: hafis@unikl.edu.my and phone or whatsapp at 0192985707 or
- Siri Famiza Mazlan, Administrative Officer, ACE UniKL MIAT at email: sitifamizam@unikl.edu.my and phone or whatsapp 00123092494.

TRAINER'S PROFILE

Abu Hanifah Haji Abdullah, PEng., PTech. He spends his 30 years of his career in the aviation industry after graduating from University with a double degree in BSc. in Aerospace Engineering and BSc. in Aeronautics (Aircraft Maintenance Engineering). He also completed his FAA A&P Program, while doing his double bachelor's degree programs. Later in 2002, he went to the Cranfield University in the UK for postgraduate study, and in 2004 he graduated in MSc. Aerospace Vehicle Design (AVD).

Upon graduation in 1989, his broad knowledge in aviation allowed him to secure a job at Airod Sdn Bhd, which is only six months after his graduation. From mid-1989 to early 1994, he rose up the position of Senior Aeronautical Engineer. His job at Airod was designing structure repair, repair processes for engine and its components, prepare work package to recover damage aircraft for the Royal Malaysian Air Force (RMAF) and United States Air Force (USAF). He has design approval for the Lockheed C130 by the USAF Logistics Centre, Warner Robins, USA. He was also granted the approval as competent engineer in measuring the wing joint fitting using Optical Transit (Brunson Instrument).

In early 1994, he moved to Australia to work for Eagle Aircraft Pty. Ltd. He was one of the engineers responsible for design, certification and production of the fully composite aircraft, Eagle 150B. Started as Design and Certification engineer, he rose to the position of Project Manager for Certification of Eagle 150B stall certification. He was also the Acting Engineering Manager for the CASA (Civil Aviation Safety Agency) DOA (Design Organization Approval).

In early 1995, the DCA (Department of Civil Aviation) DCA, which is CAAM (Civil Aviation Authority Malaysia) embarking into aircraft design, certification and manufacturing. In late 1996, he resigned from the Eagle and he joined the DCA as Assistant Director of Airworthiness (Airworthiness Design Surveyor). At the DCA, he was involved in design and certification of the two Malaysian aircraft; Eagle 150B and SME MD3-160. He was also responsible for several organization approval; DOA, POA, MRO, ATO. He was also in several aircraft type validation projects; helicopter DragonFly 333, helicopter MI-171, helicopter DHRUV. He was also in the aircraft Type Acceptance project; Airbus A320, A330, A340, DA 40D, DA 42, Agusta A109, 119, Eurocopter Super Puma. In addition to aircraft design, certification and organization approval, he was also assigned several times as the Aircraft Accident and Incident Inspectors to work under the Chief Inspector of Aircraft Accident and Incident under the Ministry of Transport.

In 2009, he took optional retirement and joined academic institutions, University Kuala Lumpur (UniKL), Malaysian Institute of Aviation Technology (MIAT) as an Associate Professor. At UniKL MIAT, he held several position; Head of Research Cluster, Head of Project Management Office (PMO), and now as the Head of Quality Department and Engineering Manager for UniKL MIAT Part 147. As an academia, research and

consultation are part of the KPI. He was the HODO for one of UniKL Design Office, he was the CVE for CTRM Sdn Bhd. He also the airworthiness advisor for G7 Aerospace Sdn Bhd., Airgo Seats Sdn Bhd, Ikramatic Sdn Bhd. In research he won several medals under the innovation and he has coached a group of UniKL Students and was one of the five best teams in the world and was given a free trip to Paris Airshow in 2011.

He was one of the coaches for the EPP8 project, to develop Small Medium Enterprise (SME) for Aerospace for the last three programs. He was the trainer for the UniKL MIAT, Advanced Continuing Education (ACE), on several professional short courses in DOA, POA, MCAR 2016, Aircraft Structure Modification and Repair, SMS, Design and Certification of UAS, Aerospace QMS (AS9100 and NADCAP).