UK Civil Aviation Authority

Guidance Material for the Accreditation of Apprenticeships in Aviation (Maintenance and Engineering)

CAP 1814

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Foreword

This Guidance Material for the Accreditation of Apprenticeships in Aviation (Maintenance and Engineering) (CAP 1814) has been amended with the direct assistance from the Institute for Apprenticeships and Technical Education (IfATE); the Aviation Sector Trailblazer Group (ASTG) and Aviation industry representatives.

The CAA wish to acknowledge and thank its industry partners for the development of this revised document.

Revision history

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Chapter 1
Introduction

UK Civil Aviation Authority

1.1 The UK Civil Aviation Authority (CAA) is the regulatory body for aviation within the UK and specifies the qualifying requirements for maintenance and continuing airworthiness personnel. As the UK Government's aviation regulator, we work so that the aviation industry meets and maintains the highest safety standards. Specifically, and within the context of apprenticeships, the CAA specifies the qualifying requirements for maintenance and continuing airworthiness personnel.

Regulation (EU) No 1321/2014

1.2 Requirements for maintenance and continuing airworthiness, including the requirements for obtaining an Aircraft Maintenance Licence, are defined in UK Regulation (EU) No. 1321/2014 (the Continuing Airworthiness Regulation). This Civil Aviation Publication (CAP) does not supersede this regulation but offers guidance in support of apprenticeships associated with maintenance and continuing airworthiness.

Supporting aviation industry by alternative entry opportunities

1.3 We seek to ensure engineering personnel can enter, and remain in the industry, by demonstrating their competence to maintain continuing airworthiness of aircraft. Therefore, we accept there are multiple entry points into the industry. To this end we encourage the development, review and use of aerospace apprenticeships that support the progression to demonstrate competence via a variety of routes, these include but are not limited to a Part 66 regulated route or via an alternative route.

Accreditation of a qualification; the UK Part 66 regulated route

1.4 If an employer determines their apprentice is to follow an approved UK Part-66 regulated route within an Apprenticeship Standard, then they are to follow the directions stipulating that all Certifying Staff shall be qualified in accordance with the requirements of Annex III (Part-66) of UK Regulation (EU) No. 1321/2014. These regulations require organisations and individuals to be approved to undertake, maintenance and engineering training tasks. For personnel involved in the release of aircraft post maintenance, there is a legal requirement to hold a UK Part 66 CAA Aircraft Maintenance Licence.

Accreditation of a qualification; an alternative route

1.5 If the employer determines to use an alternative route by the use of qualifications, then the qualification, or a combination of qualifications, must meet the requirements of the applicable Apprenticeship Standard. Both in terms of qualification level and the specified knowledge, skills and behaviours listed in the Standard. This includes organisations and individuals to be approved to undertake, design and manufacturing and engineering tasks. Additionally, the producers of the Standard, known as a Trailblazer Group, must ensure any skills-based qualification listed on the Standard has been submitted for review by the CAA.

Chapter 2

Relationship with apprenticeship governance bodies, groups and agencies

The intent

2.1 The intent of this document is to provide high level guidance for the alignment of qualifications, delivered and assessed by Further and Higher Education Training Establishments and UK Part-147 Approved Training providers in the United Kingdom and Northern Ireland, towards a UK Part 66 licence application. However, this revision only covers the specific accreditation of apprenticeships for England.

Relationship with apprenticeship governance bodies

2.2 This document does not seek to replicate the guidance or function of the designated organisations for the development of Apprenticeship Standards, e.g., Institute for Apprentices and Technical Education (IfATE) in England. However, it does highlight key points of interest that the CAA may have. Especially, if there is a likelihood the CAA will be asked to issue an Aircraft Maintenance Licence to apprentices who have followed an approved Apprenticeship Standard.

2.3 The CAA accepts there are a considerable number of common core skills found in the non-aviation manufacturing and maintenance environments and it is important to acknowledge that these may be transferable to the aviation sector.

2.4 Previous qualifications, or experience gained at the same level, must not prejudice access for individuals pursuing a UK Part 66 licence under the accreditation of a qualification: alternative route.

It is not the intent of this document to cover any aspects of how to define an apprenticeship, which are clearly defined and updated on IfATE's website.

Relationship with Trailblazer

2.5 The CAA will engage with the Aviation Sector Trailblazer Group (ASTG), and its sub-committees, on an annual or biannual basis, or as requested by the ASTG for specific specialist advice. This will allow the CAA to inform the Trailblazer Group of potential legal, regulatory or technology changes and for the Trailblazer to inform the CAA of any planned changes to Aviation Standards, including recommendations of changes within qualifications. These meetings can then be used by all stakeholders to ensure a cohesive way forward for industry related apprenticeships.

Relationship with other education related agencies

2.6 It is not the intention of the UK CAA to initially engage, with other education related agencies, such as the Office for Standards in Education, Children's Services and Skills (Ofsted) or the Education and Skills Funding Agency (ESFA) who will be involved in the scrutiny of the delivery of airworthiness related apprenticeships, unless requested to do so by the ASTG or IfATE.

Chapter 3

Accreditation of qualifications

Apprenticeships approval process

3.2 In England, IfATE regulate and approve apprenticeships. These apprenticeships are developed by employer-led groups called Trailblazers. Only apprenticeships developed by a Trailblazer Group and approved by IfATE can be funded from the Government's Apprenticeship Levy. Each Apprenticeship Standard will define the duties and the Knowledge, Skills and Behaviours (KSBs) required for the apprenticeship. These KSBs can be achieved via assorted options, including following the Part-66 or mandated qualifications.

3.1 Qualifications that are listed on the IfATE Standard are mandatory and must be completed in order to achieve the apprenticeship. The qualifications, or part thereof, may offer a structure to support the achievement of the Knowledge, Skills and Behaviours listed in the Apprenticeship Standards. It is essential that the appropriate Standard recommends a range of suitable qualifications, at the appropriate level, for each apprenticeship.

3.2 Qualifications in the Part 66 regulated route is based on achieving a standard according to the particular UK Part 66 licence, for example, Cat B1.1 or Cat A. The demonstration of meeting the standard is achieved by meeting the 66.A.25 basic knowledge and the 66.A.30 basic experience requirements. Demonstration of basic knowledge includes passing the Part 66 licence modular exams facilitated by an approved Part 147 training school or the Civil Aviation Authority.

T-levels

3.3 At the time of the last review of this document, the CAA have not received sufficient representation relating to T-levels to give sufficient exposure to the specific learning and experience needs of aviation to accredit against any application for a licence. This stance will be reviewed on the recommendation of the ASTG.

Chapter 4

Accrediting levels of training and experience

Combinations of stipulated qualifications or regulated options

4.1 Aviation engineering related apprenticeships are approved by IfATE and each Standard will stipulate the ASTG agreed qualifications to achieve the competence in knowledge, skills and behaviours listed in the Apprenticeship Standard. Alongside the Part 66 regulated options (where applicable), the typical titles below correspond to the necessary levels required for various aviation engineering roles. The CAA does not list specific qualifications which meet the requirement of IfATE's Standards as these may be subject to change or alteration beyond the CAA's control.

Aerospace Engineer

- A higher development competence qualification at Level 4
- An aerospace engineering degree qualification at Level 6.

Aerospace Software Engineer

- A software engineering degree qualification at Level 6.

Aircraft Certifying Technician

- Regulated route Part-66 Category B, delivered by an approved Part-147;

  or

- A foundation competence qualification at Level 2
- A development competence qualification at Level 4
- A technical knowledge qualification at Level 4.

Aircraft Maintenance Technician

- Regulated route Part 66 Category A, delivered by an approved Part 147.

  or

- A foundation competence qualification at Level 2
- A development competence qualification at Level 3
- A technical knowledge qualification at Level 3.

Combinations of stipulated qualifications or regulated options (cont.)

Aerospace Engineering Technician

- A foundation Competence Qualification at Level 2
- A development Competence Qualification at Level 3
- A technical Knowledge Qualification at Level 3.

Airworthiness, Planning, Quality and Safety Technician

- A foundation Competence Qualification at Level 2 (to be confirmed)
- A development Competence Qualification at Level 3
- A technical Knowledge Qualification at Level 3.

Qualification level definitions

4.2 The following is the CAA's understanding of qualification levels:

- Level 2 Intermediate - equivalent to five good GCSE passes.
- Level 3 Advanced - equivalent to two A-level passes.
- Level 4 or 5 Higher - equivalent to the first stages of higher education, foundation degree.
- Level 6 Degree - comparable to a bachelor's degree.

Skilled worker privilege

4.3 The CAA will consider accrediting experience gained within a manufacturing environment under the skilled worker privilege that exists within Regulation (EU) No. 1321/2014, Annex III, 66. A.30.

Licence application for apprentices

4.4 In relation to this Guidance Material and in particular for apprentices who have attended the regulated route, the UK CAA will consider an application for a UK Part 66 licence once the apprentice has passed End Point Assessment (EPA).

4.5 All apprenticeships will have their EPA carried out by an approved and registered End Point Assessment Organisation (EPAO).

Apprenticeship Standards not overseen by CAA

4.6 In this instance, IfATE will recommend that the relevant Trailblazer Group/s contact the CAA when a non-regulatory but aviation related apprenticeship Standard is being reviewed or developed. This would allow the CAA to determine what, if any, level of engagement and when this engagement is required.

Chapter 5
Regulated route (Part 66 aligned apprenticeships)

The Named Provider – an approved Part 147 training

5.1 For any Standard that allows for the achievement by a regulated route, e.g. a Part 66 aligned route, it must be delivered by an approved UK Part 147 organisation agreed by IfATE. This determination is not subject to CAA scrutiny nor arbitration.

5.2 It is essential that IfATE determine how and if a UK Part 147 can achieve all the requirements of the Standard, not just the regulated elements. This will be done by submission of evidence to IfATE that details the ability to teach and assess all knowledge, skills and behaviours listed in the associated Standard. This submission will have to be done for all Standards a provider wishes to deliver by a regulated route.

5.3 IfATE will then display these Named Providers on the appropriate Standard, allowing employers and potential apprentices to identify and research the Named Provider.

Note: This does not preclude any individual obtaining a UK Part 66 licence outside of the apprenticeship route by meeting the basic knowledge and experience requirements as set out in para. 3.3.

Stakeholders

5.4 Concerning any Part 147 training organisation, there are a number of stakeholders that have a personal stake in delivering these apprenticeships. These stakeholders are typically: IfATE; ESFA; Ofsted; UK CAA; apprentices; parents; employers; and educational bodies.

It is the responsibility of these UK CAA approved training organisations to communicate directly with these stakeholders, refer to the responsibility statement below.

The responsibility statement

5.5 It remains the responsibility of:

- a Part 147 Accountable Manager,
- Head of Faculty,
- College Principal, or
- other designated head of department

to ensure the day-to-day administration of the training organisation and the insurance that all processes and procedures are adhered too, in addition to maintaining the necessary standard of training quality and procedures. The nature of investment, in terms of people, airworthiness and financial commitment by all stakeholders who are engaged in such an apprenticeship need to be reassured in the integrity of these prescribed processes. To this end, this Guidance Material requires that UK CAA approved Part 147 organisations that are named on any of IfATE's EPA plans or standards are to include, in their Maintenance Training Organisations Exposition (MTOE), a clear statement of acknowledged responsibility towards these stakeholders. The purpose of this is statement is to provide confidence and reassurances to regulators and stakeholders alike.

The intention of the proposed statement is to place the responsibility of notifying the suspension of delivery of such apprenticeships on the training providers themselves. The following example statement makes clear this responsibility.

"*Should any part of this Part 147 (UK.147. XXXX) Approval be limited, suspended or revoked for whatever reason, by the UK CAA, we [Organisation name] undertake in a timely manner to inform all nominated stakeholders within the timeframe, as defined within the associated approved procedures as referenced in ref: -[**-***-****].* "

This, or a similar declaration, is to be included in the organisations exposition and shared with IfATE to become a named provider.

The statement procedure

5.6 In support of the prescribed statement, a detailed procedure must define which of stakeholders the training provider contacts and state the exact number of days (maximum 6 working days) following the limitation, suspension or revocation of privileges, as set out by the UK CAA, following a significant compliance finding against the training school 147 approval.

An example of a significant non-compliance finding could be, but is not restricted to; all acts of cheating, fraudulent activity; falsification of training records or continued non-adherence to the regulation or the organisations own procedures.

Governing Regulation

5.7 This declaration (para 5.5) does not supersede the regulatory requirements of UK Regulation (EU) No. 1321/2014, Annex IV, 147.A.155 and 147.A.160.

Chapter 6

Protected training environment

Concept

6.1 The concept of a protected training environment must be applicable for aviation related Apprenticeship Standards. This is critical when considering the working environment within aviation maintenance and engineering. A gateway assessment process between foundation, training environment and development versus workplace, ensures the apprentice is prepared and capable to progress safely into this demanding work environment.

Safe training environment

6.2 A protected learning environment provides training and instruction to be carried out in a safe setting where the individual's level of risk is minimised; nevertheless, the environment and activities retain sufficient fidelity to ensure the learner receives situational awareness and safe exposure to the potential dangers, which they may face in their aviation career.

Level of risk

6.3 The level of risk and the realism of the training tasks, that the learner is exposed to, should be increased gradually as the learner progresses through their training. Complex tasks should not be considered until within a development phase of an apprenticeship.

Direct supervision

6.4 During the initial stages of training, typically inside the foundation phase of a programme, the risks should be minimised by use of simulated environments and direct supervision, to allow the learner to successfully recognise and/or recall risks and skills appropriate to their training and how to deal with them.

Workplace emulation not simulation

6.5 Whilst augmented or virtual training can be used, there is no substitute for an environment that include aircraft components and systems. The augmented or virtual training can be used as training aids, within a workshop or classroom, which should resemble, as close as possible, a Part 145 or other regulated engineering workshop or maintenance facility. Workplace emulation offers a powerful tool for creating an immersive and highly realistic training and testing environment. By closely replicating the actual workplace, it provides significant advantages in training efficacy, cost savings, and risk management, thus enabling a learner to not only gain in competence but also in confidence.

6.6 This will allow the demonstration of best maintenance practices, troubleshooting and error capture, with more realistic Human Factors considerations that simulation can provide.

Mistakes are a learning experience and not a safety hazard

6.7 It is expected that students will make mistakes during the learning process. Within a protected learning environment, these errors are contained and used as a positive learning experience to demonstrate the outcome of such errors. The learner should be fully supported in realistic working environments, to allow the learner to interpret the information in their own words and apply it in such a way as to carry out their responsibilities, whilst they and those around them, remain safe. In addition, error capturing technique documentation can be demonstrated and utilised as a positive outcome.

Effective monitoring

6.8 The training environment should be managed in such a way that the learning experience can be used to evaluate, measure competency, and identify areas, within the learner, which need further development.

6.9 It is essential that student's knowledge, practical skills competencies, and behaviours are continually assessed throughout the apprenticeship.

APPENDIX A

Abbreviations

AMC	Acceptable Means of Compliance
AML	Aircraft Maintenance Licence
ASTG	Aviation Sector Trailblazer Group
ATA	Air Transport Association of America
CAA	UK Civil Aviation Authority
CAP	Civil Aviation Publication
DfT	UK Department for Transport
ESFA	Education and Skills Funding Agency
EPA	End Point Assessment
EPAO	End Point Assessment Organisation IfATE Institute for Apprenticeships and Technical Education
KSB	Knowledge, Skills, Behaviours
MTO	Maintenance Training Organisation
MTOE	Maintenance Training Organization Exposition
OEM	Original Equipment Manufacturer
Ofsted	Office for Standards in Education, Children's Services and Skills
Part 66	UK Part 66 Engineer Licencing Regulation
Part 145	UK Part 145 Maintenance Regulation
Part 147	UK Part 147 Maintenance Training Regulation
PD	Professional Discussion