



**BURUNDI CIVIL AVIATION  
AUTHORITY**

# **ADVISORY CIRCULAR**

CAA-AC-PEL013B

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## **ISSUE AND RENEWAL OF AIRCRAFT MAINTENANCE ENGINEER'S LICENSE**

### **1.0 PURPOSE**

This Advisory Circular is issued to provide guidance and information on the issue, re-issue and renewal of an aircraft maintenance engineer license, under the Civil Aviation (Personnel Licensing) Regulations as amended.

### **2.0 REFERENCE AND FORMS**

2.1 Regulations 4, 5 and 118 to 122 of the Civil Aviation (Personnel Licensing) Regulations

2.2 The prescribed application form

### **3.0 INFORMATION AND GUIDANCE**

#### **3.1 General Information**

**3.1.1** The prescribed application may be obtained from the Authority's Personnel Licensing (PEL) Office.

**3.1.2** The Authority may issue a license without type rating (LWTR) and a type rated license (TRL) in the categories, ratings and limitations as provided for in Regulation 5(8) and (9) of the Civil Aviation (Personnel Licensing) Regulations.

**3.1.3** In order to be granted authorisation to issue certificates of release to service after maintenance on a Burundi registered aircraft, a person must hold a valid license issued by the Authority in accordance with the Civil Aviation (Personnel Licensing) Regulations.

**3.1.4** The minimum age to be granted an AMEL is eighteen (18) years.

**3.1.5** The AMEL with or without type rating confirms that the holder is a fit person and has sufficient aeronautical knowledge, experience, competence and skills required for the basic category and aircraft type rating specified in the license as the case may be.

**3.1.6** The LWTR is broadly divided into categories and sub categories as indicated below:

- a) Category A – Aeroplane;
- b) Category C - Piston engines;
- c) Category C - Gas Turbine engines;
- d) Category ‘A’ and ‘C’ - Piston Engined Rotorcraft;
- e) Category ‘A’ and ‘C’ - Turbine Engined Rotorcraft;
- f) Category ‘A’ and ‘C’ - Piston Engined Airship;
- g) Category ‘A’ and ‘C’ - Turbine Engined Airship
- h) Category X - Electrical;
- i) Category X - Instruments;
- j) Category X - Automatic Pilots -Aeroplanes;
- k) Category X - Automatic Pilots - rotorcraft;
- l) Category X - Compass Compensation and Adjustments;
- m) Category R -Radio-Communication &Navigation; and
- n) Category R-Radio-Radar.

**3.1.7** AMEL are granted generally in two parts:

- a) LWTR -License Without Type Rating;
- b) TRL-Type Rated License

**3.1.8** The LWTR does not confer any certification privileges to the holder; it is however, a pre-requisite for grant of the relevant Type Ratings and company approval, which confer the certification privileges to the endorsed Types.

**3.1.9** In order to extend a licence to include:

- a) *Category 'R' – Radio-Radar:* The applicant is required to hold LWTR Radio Communication and Navigation.
- b) *Category 'X'-Compass Compensation and Adjustments:* The applicant is required to hold a LWTR in both Categories 'A' and 'C' or 'X' or 'R'.

**3.1.10** Category 'X'-LWTR-Instruments, include general aircraft instruments, flight and air data computation systems, inertial navigation systems, direct reading and remote reading compasses (excluding their compensation and adjustments) and ground proximity warning systems(GPWS).

**3.1.11** Combined Category 'X'-LWTR-Instruments/Automatic Pilots is a prerequisite for the grant of any of combined category 'X' Type Ratings.

**3.1.12** Before sitting for any licence examination Candidates shall be required to show proof of identity, such as a passport or a government issued identification Card.

**3.1.13** Aircraft Maintenance Engineer Licence is valid for a period of twenty four (24) months from the date of issue or renewal as per Regulation 8 (14) of the Civil Aviation (Personnel Licensing) Regulations.

## **3.2 License without Type Rating (LWTR)**

### **3.2.1 The LWTR is granted for different specialisation as shown below:**

- a) LWTR Aeroplanes;
- b) LWTR Gas Turbines Engines;
- c) LWTR Piston Engines;
- d) LWTR Rotor Crafts Turbine Engines;
- e) LWTR Rotor Crafts Piston Engines;
- f) LWTR Electrical (with limitations);
- g) LWTR Instruments;
- h) LWTR Automatic Pilots-Aeroplane;
- i) LWTR Automatic Pilots-Rotorcraft;
- j) LWTR Radio;
- k) LWTR Compass'.

### 3.2.2 Basic Theoretical Knowledge Requirements–LWTR:

- a) The basic knowledge level requirements for the license are dependent on the complexity of the category and makes reference to Regulation 119 of the Civil Aviation (Personnel Licensing) Regulations and its fourth Schedule.
- b) The training specifications relating to knowledge for a LWTR are defined in chapters of the 4<sup>th</sup> schedule to the PEL Regulations (see chapters 1 to 7 as illustrated below) are basic principles corresponding to the knowledge common to all the tasks of an AME job

<i>Subject matter</i>	<i>Recommended duration (hours)</i>	<i>Level of capability</i>	
		<i>Line</i>	<i>Base</i>
<b><i>Chapter 1 Civil aviation requirements, laws and regulations</i></b>			
<i>1.3.1 International and State aviation law</i>	10	3	2
<i>1.3.2 Airworthiness requirements</i>	10	3	2
<i>1.3.3 Civil aviation operating regulations</i>	10	3	2
<i>1.3.4 Air transport operations</i>	10	3	2
<i>1.3.5 Organization and management of the operator</i>	10	3	2
<i>1.3.6 Operator economics related to maintenance</i>	10	3	2
<i>1.3.7 Approved maintenance organizations (AMOs)</i>	30	3	3
<i>1.3.8 Aircraft maintenance licence requirements</i>	20	3	3
<i>1.3.9 The role of the State aviation regulatory body</i>	10	3	2
<i>1.3.10 Aircraft certification, documents and maintenance</i>	10	3	2
<b><i>Chapter 2 Natural science and general principles of aircraft</i></b>			
<i>2.3 Mathematics</i>	75	1	1
<i>2.4 Physics</i>	70	1	1
<i>2.5 Technical drawing</i>	70	1	1
<i>2.6 Chemistry</i>	30	1	1
<i>2.7 Fixed wing aerodynamics and flight control</i>	100	2	2
<i>2.8 Rotary wing aerodynamics and flight control</i>	100	1	1
<b><i>Chapter 3 Aircraft engineering and maintenance: Airframe</i></b>			
<i>3.3 Maintenance practices and materials: Airframe/Powerplant</i>	200	3	3

<i>3.4 Aircraft systems and structures: Fixed wing</i>	250	3	3
<i>3.5 Aircraft systems and structures: Rotary wing</i>	250	3	3
<i>3.6 Airship systems and structures</i>	100	3	3
<b>Chapter 4 Aircraft engineering and maintenance: Engines/Powerplants</b>			
<i>4.3 Piston engines</i>	250	3	3
<i>4.4 Propellers</i>	100	3	3
<i>4.5 Gas turbine engines</i>	300	3	3
<i>4.6 Fuel systems</i>	100	3	3
<b>Chapter 5 Aircraft engineering and maintenance: Avionics — Electrical and instrument</b>			
<i>5.3 Maintenance practices and materials</i>	200	3	3
<i>5.4 Electrical and electronic fundamentals</i>	450	2	2
<i>5.5 Digital techniques, computers and associated devices</i>	200	2	2
<i>5.6 Aircraft electrical systems</i>	250	3	2
<i>5.7 Aircraft instrument systems</i>	250	3	2
<b>Chapter 6 Aircraft engineering and maintenance: Avionics — AFCS/Navigation/Radio</b>			
<i>6.3 Automatic flight control systems (AFCS): Fixed wing</i>	200	3	2
<i>6.4 Automatic flight control systems (AFCS): Rotary wing</i>	75	3	2
<i>6.5 Aircraft inertial navigation systems (INS)</i>	60	3	2
<i>6.6 Aircraft radio and radio navigation systems</i>	45	3	2
<b>Chapter 7 Human performance and limitations</b>			
<i>7.7 Required knowledge, skills and attitudes:</i>			
<i>A. General programme overview</i>	3	3	3
<i>B. Human Factors knowledge</i>	3	3	3
<i>C. Communication skills</i>	3	3	3
<i>D. Teamwork skills</i>	3	3	3
<i>E. Performance management</i>	3	3	3
<i>F. Situation awareness</i>	3	3	3
<i>G. Human error</i>	3	3	3
<i>H. Reporting and investigating errors</i>	3	3	3
<i>I. Monitoring and auditing</i>	3	3	3
<i>J. Document design</i>	3	3	3

### 3.2.3 Experience Requirements-LWTR:

a) Regulation 120 of the Civil Aviation (Personnel Licensing) Regulations, prescribes the experience requirements.

b) In general, however –

(i) The applicant for LWTR must have general maintenance practices, practical skills and attitude training in order to master essential skills before proceeding to work on airworthy aircraft or components. The experience and training specification for this phase is detailed in chapters 8, 9 and 10 of the tables in 4<sup>th</sup> schedule to the Regulations.

(ii) The experience should include (as relevantly applicable to the category required) maintenance on aircraft structures, power plant, mechanical, electrical and avionics systems, replacement of Line Replaceable Units (LRU's) including engines and propellers, defects trouble shooting and rectification, system function and operation checks, and power plant performance runs.

(iii) Applicants for grant or extension of a Licence in Categories 'A','C','X' and 'R' (except Category 'X' – Compass Compensation and Adjustment,) must show confirmed minimum specific periods of aviation maintenance engineering experience totalling 3 years.

(iv) Applicants must also show the following minimum experience, which must have been gained whilst maintaining operating aircraft and not in component workshops or on static or non-flying aircraft:

(a) For a Category 'A' and/or 'C' LWTR, 24 months relating to Airframe and/or Engine maintenance, 12 months of which must be in the 2 years immediately preceding the date of application;

(b) For any Category 'R' and/or 'X' LWTR (excluding Category 'X' – Compass Compensation and Adjustment), 24 months related to avionic systems, 12 months of which must be in the 2 years immediately preceding the date of application;

(c) 6 months, within the 12 months referred to above relevant to the specific LWTR for which application is being made;

(v) Where an applicant for Category 'X' Electrical holds a valid Licence which includes both Category 'A' and Category 'C' LWTR sub divisions, the experience in subparagraph (iv)(a) above need not be complied with and the applicant need show only the 6 months experience relevant to the LWTR required in paragraph (iv)(b) above.

(vi) An applicant for a LWTR in one category holding a valid licence in another category the experience requirement of paragraph (iv)(a) and (iv)(b) above may be reduced dependent on the total practical experience accumulated while holding that licence and training attended but in any case shall demonstrate the experience requirements of paragraph (iv)(c). Any of the periods specified above may be concurrent.

(vii) An approved full time *ab-initio* course of training can be undertaken under the auspices of Authority's approved/recognised Aviation Training Organization (ATO). The course will include practical maintenance experience to consolidate the training received for aeroplanes, rotorcrafts, engines, avionics equipment and systems. The course should have included practical skill assessment as part of the training qualification. Applicants who have successfully completed such a course may not be subjected to the full three years maintenance engineering experience requirement.

*Note: However, whatever the case may be, the applicant is required to have acquired the basic underpinning theoretical knowledge required for the category, the basic skills, and maintenance practices experience that ensures basic practical competence.*

### **3.2.4 Applying for a LWTR**

a) The appropriate application Form for initial issue of an AMEL is submitted to the Authority with the following attachments as applicable:

(i) Course certificates;

(ii) Schedule of work experience (or the Aircraft Maintenance Engineers Experience Log-Book )

b) The application shall not be accepted if it is not appropriately filled, certified by an authorised person of the AMO where the applicant works and the required supporting documents have been attached

c) In case the application is rejected, the applicant will be notified in writing the reasons for rejection.

### **3.2.5 LWTR Examination**

a) An applicant for a LWTR will be examined on those modules of the syllabus under the fourth Schedule of the Civil Aviation (Personnel Licensing) Regulations which are applicable to the Category/Sub-Division insight.

b) The examinations for the issue of LWTR are based on the knowledge and skill level requirement specified in the fourth Schedule of the Civil Aviation (Personnel Licensing) Regulations, comprising of an examination paper for each knowledge chapter relevant to the category of the LWTR applied for.

c) The examination for the issue of an AMEL category includes written examination papers made up of multiple choice / essay questions and an Oral examination.

d) The oral examination is offered only after all the written examination papers have been passed, and it is required to sit for the oral exam within 12 months of the first written examination passed; passes that fall outside the 12 month time limit will lapse and shall be repeated. Reference may be made to Regulation 119 (2) of the Civil Aviation (Personnel Licensing) Regulations.

- e) The oral exam shall include questions on:
  - (i) The LWTR category being sat for;
  - (ii) Aircraft maintenance engineering practices and procedures;
  - (iii) Air Legislation Regulations and Requirements relevant to LWTR.
- f) Results:
  - i. The candidate shall be notified about the results in writing within ten (10) working days after sitting the examination.
  - ii. A licence will be issued only after successful pass level has been achieved in all papers relevant to the category including the regulations examination paper.

### **3.2.6 Extension of LWTR**

The examination requirements for licence extension to include another LWTR are the same as described above, however candidate will be examined only in the knowledge and skills module in the extension category applied for that have not been already examined and passed.

### **3.2.7 Failure of LWTR Examinations**

- a) On failure of a LWTR knowledge test, the candidate may apply for a re-sit after a period of at least three (3) months or as advised in writing by the Authority. It is required to submit a new application and record of additional work experience.
- b) A candidate is allowed three successive attempts at an oral examination for a LWTR provided that all the attempts take place within twelve months of the first attempt. A candidate that fails a third oral attempt shall have to repeat the full licence application process.

## **3.3 Applying for a Type Rating**

### **3.3.1 Application for a Type Rated License**

- a) The application is submitted to the Authority through the Personnel Licensing Office using an appropriately completed application Form for a type rating.
- b) The following attachments are required as applicable:
  - (i) Course certificates;
  - (ii) Schedule of work experience (or the Aircraft Maintenance Engineers Experience Log-Book).



- c) It is important for the applicant to ensure the application has been properly filled and all required documents are attached before submitting it to the Authority.
- d) An application for a Type Rating shall be accepted by the Authority only if:
  - (i) the applicant already holds the appropriate LWTR;
  - (ii) the aircraft is of a type, or the engine or system installed in a type that is registered in Burundi and in respect of which a Certificate of Airworthiness is in force or has been applied for;
  - (iii) The application is not for an aircraft type, whose maximum take off mass (MTOM) is 13610kg. (30,000lb.) or greater (Regulation 5 (9) of Civil Aviation (Personnel Licensing) Regulations);
  - (iv) The applicant for a combined Category X type rating (e.g. Instruments/Automatic Pilots) holds the combined LWTRs;
  - (v) The applicant for Category X - Compass Compensation and Adjustment holds LWTR category X, R or A & C, and has certified evidence of six compass swings and at least recent six months work experience on civil operating aircraft.

*Note: For all pressurised airframes, rotorcrafts, gas turbine engines and their associated systems, the Authority requires the applicant to have undergone an Authority's acceptable aircraft type, engine and/or systems maintenance course.*
- e) Where the applicant is required to undergo an approved type aircraft and systems training, the applicant must give evidence of satisfactory completion of that training.

### **3.3.2 Experience Requirements –Type Ratings**

- (a) Subject to subparagraph (b) below, general extension of a Licence to include a Type Rating does not normally require a period of general experience additional to that required for the relevant LWTR, which must be held before a Type Rating will be granted. However a satisfactory record of maintenance experience appropriate to the Type applied for must be submitted as part of the application. Reference may be made to Regulation 120 (6) of the Civil Aviation (Personnel Licensing) Regulations.
- (b) An application for a Type Rating from a holder of a LWTR which was gained following successful completion of an Approved *ab-initio* Course must show confirmed evidence that he or she has obtained at least 12 months relevant aircraft engineering experience with an AMO engaged in maintenance of an operational type aircraft in addition to that gained during the Course. Reference may be made to Regulation 120 (7) of the Civil Aviation (Personnel Licensing) Regulations.
- c) The summarised experience record to be submitted should indicate that the applicant has gained type maintenance experience on all relevant type systems, components and structures in regards to their condition, assembly, function, mandatory inspection and modification as applicable on an operating aircraft.
- (d) The experience documented in the Record of Aircraft Maintenance Engineers

Experience Log-Book (or schedule of work experience ) must have been gained within the three years including the last six months before the application at an approved maintenance organisation. It should have been appropriately signed and stamped by an authorised person of the AMO as confirmation.

(e) When the application, training requirements and work experience submitted are found satisfactory for the type rating applied for, the applicant is invited to sit for the type oral examination.

### 3.3.3 Type Rating Examinations

(a) The type rating examination normally is a maintenance knowledge sampling oral examination. The candidates should expect questions from the complete knowledge and skills requirements appropriate to the rating regardless of whether they have indicated to have gained experience on particular systems or not.

(b) In particular the type rating oral exam shall include questions on:

(i) aviation legislations and requirements relevant to AMEL;

(ii) the type, construction, systems structure and operation; and

(iii) type maintenance requirements, practices and procedures.

(c) This examination is meant to evaluate and confirm that the candidate:

(i) knows and understands the type applied for;

(ii) has practiced and has the experience on the type in regards to the **condition, function, assembly** and maintenance practices; and

(iii) is knowledgeable and fully aware of the regulatory requirements in regards to the privileges, limitations and responsibilities of a holder of a type rated engineers licence.

(d) *Results* – The candidate shall be notified in writing about the results within ten (10) working days after sitting the oral examination.

### 3.3.4 Failure of a Type Rating Examination

(a) On failure of a type rating examination the candidate may apply for a re-sit after a period of at least three (3) months or as advised in writing by the Authority.

(b) It is required to submit a new application as explained in paragraph (a) above and a further record of work experience relevant to the knowledge requirements of the type applied for.

## **3.4 Licence Renewal**

### **3.4.1 Licence Renewal Information and Requirements**

- (a) It is the responsibility of the License holder to ensure that his or her License remains valid, it is also important to know that license validity dates are not back-dated.
- (b) A holder of an Aircraft Maintenance Engineers Licence may apply for renewal of licence at most sixty (60) days and at least fourteen (14) days before the expiry period. Application for AMEL renewal shall be made by completing and submitting to the Authority the prescribed application form for AMEL renewal which has been duly signed and certified by an authorised person and proof of the renewal fee payment.
- (c) The requirements for AMEL renewal make reference to Regulation 122 of the Civil Aviation (Personnel Licensing) Regulations. In general however, the holder is required to provide evidence of having been engaged in the maintenance of operating aircraft for periods totalling at least 6 months during the 24 months before application for renewal.
- (d) Licences are renewed for a period of two (2) years after the applicant has met the requirements for renewal.

### **3.4.2 Licence Renewal application after expiry date**

- (a) When the licence has lapsed, at the renewal application, the licence will not be renewed until an acceptable statement from the applicant and employer, have been made and submitted to the Authority confirming that, the holder did not exercise the licence privileges during the period the licence had expired.
- (b) When the applicant has exercised the privileges of an expired licence the licence renewal will not be considered until the applicant and the employer have presented acceptable statements explaining the circumstances under which certification was made on an expired licence. All such certifications made when the licence had expired have been reported to the Authority and that they have been recertified by a holder of a valid License.
- (c) The statements referred to in (2) (b) and (c) above must be made by the operator of the aircraft or by the authorised person (of the AMO) where the applicant works.
- (d) The relevant provisions in Part XIII (Offences and Penalties) of the Civil Aviation (Personnel Licensing) Regulations may be applied to the licence holder, aircraft operator and or the AMO.
- (e) A Licence which has lapsed for less than 12 months will be considered for renewal without examination of the holder provided that the holder meets the requirements of Regulation 115(3) of the Civil Aviation (Personnel Licensing) Regulations.
- (f) A Licence which has lapsed for more than 12 months shall be renewed or reissued after passing an examination as per the requirements of Regulation 122 (4) of the Civil

Aviation (Personnel Licensing) Regulations. The amount of recent experience required must be documented and submitted to the Authority for verification.

### **3.5 Validation of Foreign Aircraft Maintenance Engineer Licences**

Refer to Regulation 19 of the Civil Aviation (Personnel Licensing) Regulations for details and procedures.

### **3.6 Conversion of Foreign Aircraft Maintenance Engineer Licences and Ratings**

Refer to Regulation 20 of the Civil Aviation (Personnel Licensing) Regulations for details and procedures.

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**Director General**  
**Burundi Civil Aviation Authority**