REGULATION EASA PART-66

GENERAL

66.1 Competent authority

Regulation (EU) No 1321/2014

(a) For the purpose of this Annex (Part-66), the competent authority shall be:

1. the authority designated by the Member State to whom a person first applies for the issuance of an aircraft maintenance licence; or

2. the authority designated by another Member State, in case it would be different, subject to agreement with the authority referred to in point 1. In that case, the licence referred to in point 1 shall be revoked, all the records mentioned in point 66.B.20 shall be transferred and a new licence shall be issued on the basis of these records.

(b) The Agency shall be responsible for defining:

1. the list of aircraft types; and

2. what airframe/engine combinations are included in each particular aircraft type rating.

SECTION A — TECHNICAL REQUIREMENTS

SUBPART A — AIRCRAFT MAINTENANCE LICENCE

66.A.1 Scope

Regulation (EU) No 1321/2014

This section defines the aircraft maintenance licence and establishes the requirements for application, issue and continuation of its validity.

66.A.3 Licence categories and subcategories

Regulation (EU) 2018/1142

Aircraft maintenance licences include the following categories and, where applicable, subcategories and system ratings:

(a) Category A, divided into the following subcategories:

— A1 Aeroplanes Turbine;

— A2 Aeroplanes Piston;

— A3 Helicopters Turbine;

— A4 Helicopters Piston.

(b) Category B1, divided into the following subcategories:

— B1.1 Aeroplanes Turbine;

— B1.2 Aeroplanes Piston;

— B1.3 Helicopters Turbine;

— B1.4 Helicopters Piston.

(c) Category B2

The B2 licence is applicable to all aircraft.

(d) Category B2L

The B2L licence is applicable to all aircraft other than those in Group 1 as set out in Point 66.A.5(1) and is divided into the following ‘system ratings’:

— communication/navigation (com/nav),

— instruments,

— autoflight,

— surveillance,

— airframe systems.

A B2L licence shall contain, as a minimum, one system rating.

(e) Category B3

The B3 licence is applicable to piston-engine non-pressurised aeroplanes of 2 000 kg Maximum Take-off Mass (MTOM) and below.

(f) Category L, divided into the following subcategories:

— L1C: composite sailplanes,

— L1: sailplanes,

— L2C: composite powered sailplanes and composite ELA1 aeroplanes,

— L2: powered sailplanes and ELA1 aeroplanes,

— L3H: hot-air balloons,

— L3G: gas balloons,

— L4H: hot-air airships,

— L4G: ELA2 gas airships,

— L5: gas airships other than ELA2.

(g) Category C

The C licence is applicable to aeroplanes and helicopters.

66.A.5 Aircraft groups

Regulation (EU) 2018/1142

For the purpose of ratings on aircraft maintenance licences, aircraft shall be classified into the following groups:

(1) Group 1: complex motor-powered aircraft, helicopters with multiple engines, aeroplanes with maximum certified operating altitude exceeding FL290, aircraft equipped with fly-by-wire systems, gas airships other than ELA2 and other aircraft requiring an aircraft type rating when defined as such by the Agency.

The Agency may decide to classify into Group 2, Group 3 or Group 4, as appropriate, an aircraft which meets the conditions set out in the first subparagraph, if it considers that the lower complexity of the particular aircraft justifies so.

(2) Group 2: aircraft other than those in Group 1 belonging to the following subgroups:

(i) subgroup 2a:

— single turboprop engine aeroplanes,

— those turbojet and multiple-turboprop aeroplanes classified by the Agency in this subgroup because of their lower complexity.

(ii) subgroup 2b:

— single turbine engine helicopters,

— those multiple turbine engine helicopters classified by the Agency in this subgroup because of their lower complexity.

(iii) subgroup 2c:

— single piston engine helicopters,

— those multiple piston engine helicopters classified by the Agency in this subgroup because of their lower complexity.

(3) Group 3: piston engine aeroplanes other than those in Group 1.

(4) Group 4: sailplanes, powered sailplanes, balloons and airships, other than those in Group 1.

66.A.10 Application

Regulation (EU) No 1321/2014

(a) An application for an aircraft maintenance licence or change to such licence shall be made on an EASA Form 19 (see Appendix V) in a manner established by the competent authority and submitted thereto.

(b) An application for the change to an aircraft maintenance licence shall be made to the competent authority of the Member State that issued the aircraft maintenance licence.

(c) In addition to the documents required in points 66.A.10(a), 66.A.10(b) and 66.B.105, as appropriate, the applicant for additional basic categories or subcategories to an aircraft maintenance licence shall submit his/her current original aircraft maintenance licence to the competent authority together with the EASA Form 19.

(d) Where the applicant for change of the basic categories qualifies for such change via the procedure referred to in point 66.B.100 in a Member State other than the Member State which issued the license, the application shall be sent to the competent authority referred to in point 66.1.

(e) Where the applicant for change of the basic categories qualifies for such change via the procedure referred to in point 66.B.105 in a Member State other than the Member State which issued the license, the maintenance organisation approved in accordance with Annex II (Part-145) shall send the aircraft maintenance licence together with the EASA Form 19 to the competent authority referred to in point 66.1 for stamp and signature of the change or reissue of the licence, as appropriate.

(f) Each application shall be supported by documentation to demonstrate compliance with the applicable theoretical knowledge, practical training and experience requirements at the time of application.

66.A.15 Eligibility

Regulation (EU) No 1321/2014

An applicant for an aircraft maintenance licence shall be at least 18 years of age.

66.A.20 Privileges

Regulation (EU) 2018/1142

(a) The following privileges shall apply:

1. A category A aircraft maintenance licence permits the holder to issue certificates of release to service following minor scheduled line maintenance and simple defect rectification within the limits of tasks specifically endorsed on the certification authorisation referred to in point 145.A.35 of Annex II (Part-145). The certification privileges shall be restricted to work that the licence holder has personally performed in the maintenance organisation that issued the certification authorisation.

2. A category B1 aircraft maintenance licence shall permit the holder to issue certificates of release to service and to act as B1 support staff following:

— maintenance performed on aircraft structure, powerplant and mechanical and electrical systems,

— work on avionic systems requiring only simple tests to prove their serviceability and not requiring troubleshooting.

Category B1 includes the corresponding A subcategory.

3. A category B2 aircraft maintenance licence shall permit the holder:

(i) to issue certificates of release to service and to act as B2 support staff for following:

— maintenance performed on avionic and electrical systems, and

— electrical and avionics tasks within powerplant and mechanical systems, requiring only simple tests to prove their serviceability; and

(ii) to issue certificates of release to service following minor scheduled line maintenance and simple defect rectification within the limits of tasks specifically endorsed on the certification authorisation referred to in point 145.A.35 of Annex II (Part-145). This certification privilege shall be restricted to work that the licence holder has personally performed in the maintenance organisation which issued the certification authorisation and limited to the ratings already endorsed in the B2 licence.

The category B2 licence does not include any A subcategory.

4. A category B2L aircraft maintenance licence shall permit the holder to issue certificates of release to service and to act as B2L support staff for the following:

— maintenance performed on electrical systems;

— maintenance performed on avionics systems within the limits of the system ratings specifically endorsed on the licence, and

— when holding the 'airframe system' rating, performance of electrical and avionics tasks within power plant and mechanical systems, requiring only simple tests to prove their serviceability.

5. A category B3 aircraft maintenance licence shall permit the holder to issue certificates of release to service and to act as B3 support staff for the following:

— maintenance performed on aeroplane structure, power plant and mechanical and electrical systems; and

— work on avionics systems requiring only simple tests to prove their serviceability and not requiring troubleshooting.

6. A category L aircraft maintenance licence shall permit the holder to issue certificates of release to service and to act as L support staff for the following:

— maintenance performed on aircraft structure, power plant and mechanical and electrical systems;

— work on radio, Emergency Locator Transmitters (ELT) and transponder systems; and

— work on other avionics systems requiring simple tests to prove their serviceability.

Subcategory L2 includes subcategory L1. Any limitation to subcategory L2 in accordance with point 66.A.45(h) becomes also applicable to subcategory L1.

Subcategory L2C includes subcategory L1C.

7. A category C aircraft maintenance licence shall permit the holder to issue certificates of release to service following base maintenance of the aircraft. The privileges apply to the aircraft in its entirety.

(b) The holder of an aircraft maintenance licence may not exercise its privileges unless:

1. in compliance with the applicable requirements of Annex I (Part-M) and Annex II (Part-145); and

2. in the preceding 2-year period he/she has, either had 6 months of maintenance experience in accordance with the privileges granted by the aircraft maintenance licence or, met the provision for the issue of the appropriate privileges; and

3. he/she has the adequate competence to certify maintenance on the corresponding aircraft; and

4. he/she is able to read, write and communicate to an understandable level in the language(s) in which the technical documentation and procedures necessary to support the issue of the certificate of release to service are written.

66.A.25 Basic knowledge requirements

Regulation (EU) 2018/1142

(a) For licences other than categories B2L and L, an applicant for an aircraft maintenance licence, or for the addition of a category or subcategory to such a licence, shall demonstrate by examination a level of knowledge of the appropriate subject modules in accordance with Appendix I to Annex III (Part-66). The examination shall comply with the standard set out in Appendix II to Annex III (Part-66) and shall be conducted either by a training organisation appropriately approved in accordance with Annex IV (Part-147), or by the competent authority.

(b) An applicant for an aircraft maintenance licence in category L within a given subcategory, or for the addition of a different subcategory, shall demonstrate by examination a level of knowledge of the appropriate subject modules in accordance with Appendix VII to Annex III (Part-66). The examination shall comply with the standard set out in Appendix VIII to Annex III (Part-66) and shall be conducted by a training organisation appropriately approved in accordance with Annex IV (Part-147), by the competent authority or as agreed by the competent authority.

The holder of an aircraft maintenance licence in subcategory B1.2 or category B3 is deemed to meet the basic knowledge requirements for a licence in subcategories L1C, L1, L2C and L2.

The basic knowledge requirements for subcategory L4H include the basic knowledge requirements for subcategory L3H.

The basic knowledge requirements for subcategory L4G include the basic knowledge requirements for subcategory L3G.

(c) An applicant for an aircraft maintenance licence in category B2L for a particular ‘system rating’, or for the addition of another ‘system rating’, shall demonstrate by examination a level of knowledge of the appropriate subject modules in accordance with Appendix I to Annex III (Part-66). The examination shall comply with the standard set out in Appendix II to Annex III (Part-66) and shall be conducted either by a training organisation appropriately approved in accordance with Annex IV (Part-147), or by the competent authority.

(d) The training courses and examinations shall have been passed within 10 years prior to the application for an aircraft maintenance licence or the addition of a category or subcategory to

such a licence. Should this not be the case, examination credits may be obtained in accordance with point (e).

(e) The applicant may apply to the competent authority for full or partial examination credits for the basic knowledge requirements for:

(i) basic knowledge examinations that do not meet the requirement laid down in point (d);

(ii) any other technical qualification considered by the competent authority to be equivalent to the knowledge standard of Annex III (Part-66).

Credits shall be granted in accordance with Subpart E of Section B of this Annex (Part-66).

(f) Credits expire 10 years after they were granted to the applicant by the competent authority. The applicant may apply for new credits after expiration.

66.A.30 Basic experience requirements

Regulation (EU) 2018/1142

(a) An applicant for an aircraft maintenance licence shall have acquired:

1. for category A, subcategories B1.2 and B1.4 and category B3:

(i) 3 years of practical maintenance experience on operating aircraft, if the applicant has no previous relevant technical training; or

(ii) 2 years of practical maintenance experience on operating aircraft and completion of training considered relevant by the competent authority as a skilled worker, in a technical trade; or

(iii) 1 year of practical maintenance experience on operating aircraft and completion of a basic training course approved in accordance with Annex IV (Part-147);

2. for category B2 and subcategories B1.1 and B1.3:

(i) 5 years of practical maintenance experience on operating aircraft if the applicant has no previous relevant technical training; or

(ii) 3 years of practical maintenance experience on operating aircraft and completion of training considered relevant by the competent authority as a skilled worker, in a technical trade; or

(iii) 2 years of practical maintenance experience on operating aircraft and completion of a basic training course approved in accordance with Annex IV (Part-147);

2a. for category B2L:

(i) 3 years of practical maintenance experience in operating aircraft, covering the corresponding system rating(s), if the applicant has no previous relevant technical training; or

(ii) 2 years of practical maintenance experience in operating aircraft, covering the corresponding system rating(s), and completion of training, considered relevant by the competent authority, as a skilled worker in a technical trade; or

(iii) 1 year of practical maintenance experience in operating aircraft, covering the corresponding system rating(s), and completion of a Part-147 approved basic training course. For the addition of (a) new system rating(s) to an existing B2L

licence, 3 months of practical maintenance experience relevant to the new system rating(s) shall be required for each system rating added.

2b. for category L:

(i) 2 years of practical maintenance experience in operating aircraft covering a representative cross section of maintenance activities in the corresponding subcategory;

(ii) as a derogation from point (i), 1 year of practical maintenance experience in operating aircraft covering a representative cross section of maintenance activities in the corresponding subcategory, subject to the introduction of the limitation provided for in point 66.A.45(h)(ii)(3).

For the inclusion of an additional subcategory in an existing L licence, the experience required by points (i) and (ii) shall be 12 and 6 months respectively.

The holder of an aircraft maintenance licence in category/subcategory B1.2 or B3 is deemed to meet the basic experience requirements for a licence in subcategories L1C, L1, L2C and L2.

3. for category C with respect to complex motor-powered aircraft:

(i) 3 years of experience exercising category B1.1, B1.3 or B2 privileges on complex motor-powered aircraft or as support staff according to point 145.A.35, or, a combination of both; or

(ii) 5 years of experience exercising category B1.2 or B1.4 privileges on complex motor-powered aircraft or as support staff according to point 145.A.35, or a combination of both;

4. for category C with respect to other than complex motor-powered aircraft: 3 years of experience exercising category B1 or B2 privileges on other than complex motor-powered aircraft or as support staff according to point 145.A.35, or a combination of both;

5. for category C obtained through the academic route: an applicant holding an academic degree in a technical discipline, from a university or other higher educational institution recognised by the competent authority, 3 years of experience working in a civil aircraft maintenance environment on a representative selection of tasks directly associated with aircraft maintenance including 6 months of observation of base maintenance tasks.

(b) An applicant for an extension to an aircraft maintenance licence shall have a minimum civil aircraft maintenance experience requirement appropriate to the additional category or subcategory of licence applied for as defined in Appendix IV to this Annex (Part-66).

(c) The experience shall be practical and involve a representative cross section of maintenance tasks on aircraft.

(d) At least 1 year of the required experience shall be recent maintenance experience on aircraft of the category/subcategory for which the initial aircraft maintenance licence is sought. For subsequent category/subcategory additions to an existing aircraft maintenance licence, the additional recent maintenance experience required may be less than 1 year, but shall be at least 3 months. The required experience shall be dependent upon the difference between the licence category/subcategory held and applied for. Such additional experience shall be typical of the new licence category/subcategory sought.

(e) Notwithstanding point (a), aircraft maintenance experience gained outside a civil aircraft maintenance environment shall be accepted when such maintenance is equivalent to that

required by this Annex (Part-66) as established by the competent authority. Additional experience of civil aircraft maintenance shall, however, be required to ensure adequate understanding of the civil aircraft maintenance environment.

(f) Experience shall have been acquired within the 10 years preceding the application for an aircraft maintenance licence or the addition of a category or subcategory to such a licence.

66.A.40 Continued validity of the aircraft maintenance licence

Regulation (EU) No 1321/2014

(a) The aircraft maintenance licence becomes invalid 5 years after its last issue or change, unless the holder submits his/her aircraft maintenance licence to the competent authority that issued it, in order to verify that the information contained in the licence is the same as that contained in the competent authority records, pursuant to point 66.B.120.

(b) The holder of an aircraft maintenance licence shall complete the relevant parts of EASA Form 19 (see Appendix V) and submit it with the holder's copy of the licence to the competent authority that issued the original aircraft maintenance licence, unless the holder works in a maintenance organisation approved in accordance with Annex II (Part-145) that has a procedure in its exposition whereby such organisation may submit the necessary documentation on behalf of the aircraft maintenance licence holder.

(c) Any certification privilege based upon a aircraft maintenance licence becomes invalid as soon as the aircraft maintenance licence is invalid.

(d) The aircraft maintenance licence is only valid (i) when issued and/or changed by the competent authority and (ii) when the holder has signed the document.

66.A.45 Endorsement with aircraft ratings

Regulation (EU) 2019/1383

(a) In order to be entitled to exercise certification privileges on a specific aircraft type, the holder of an aircraft maintenance licence needs to have their licence endorsed with the relevant aircraft ratings:

— For category B1, B2 or C, the relevant aircraft ratings are the following:

(i) for Group 1 aircraft, the appropriate aircraft type rating;

(ii) for Group 2 aircraft, the appropriate aircraft type rating, manufacturer subgroup rating or full subgroup rating;

(iii) for Group 3 aircraft, the appropriate aircraft type rating or full group rating;

(iv) for Group 4 aircraft, for the category B2 licence, the full group rating.

— For category B2L, the relevant aircraft ratings are the following:

(i) for Group 2 aircraft, the appropriate manufacturer subgroup rating or full subgroup rating;

(ii) for Group 3 aircraft, the full group rating;

(iii) for Group 4 aircraft, the full group rating.

— For category B3, the relevant rating is ‘piston-engine non-pressurised aeroplanes of 2 000 kg MTOM and below’.

— For category L, the relevant aircraft ratings are the following:

(i) for subcategory L1C, the rating 'composite sailplanes';

(ii) for subcategory L1, the rating 'sailplanes';

(iii) for subcategory L2C, the rating 'composite powered sailplanes and composite ELA1 aeroplanes';

(iv) for subcategory L2, the rating 'powered sailplanes and ELA1 aeroplanes';

(v) for subcategory L3H, the rating 'hot-air balloons';

(vi) for subcategory L3G, the rating 'gas balloons'

(vii) for subcategory L4H, the rating 'hot-air airships';

(viii) for subcategory L4G, the rating 'ELA2 gas airships';

(ix) for subcategory L5, the appropriate airship type rating.

— For category A, no rating is required, subject to compliance with the requirements of point 145.A.35 of Annex II (Part-145).

(b) The endorsement of aircraft type ratings requires the satisfactory completion of one of the following:

— the relevant category B1, B2 or C aircraft type training in accordance with Appendix III to Annex III (Part-66);

— in the case of gas airship type ratings on a B2 or L5 licence, a type training approved by the competent authority in accordance with point 66.B.130.

(c) For other than category C licences, in addition to the requirements of point (b), the endorsement of the first aircraft type rating within a given category/subcategory requires satisfactory completion of the corresponding on-the-job training. This on-the-job training shall comply with Appendix III to Annex III (Part-66), except in the case of gas airships, where it shall be directly approved by the competent authority.

(d) By derogation from points (b) and (c), for Group 2 and 3 aircraft, aircraft type ratings may also be endorsed on a licence after completing the following steps:

— satisfactory completion of the relevant category B1, B2 or C aircraft type examination in accordance with Appendix III to this Annex (Part-66);

— in the case of B1 and B2 category, demonstration of practical experience in the aircraft type. In that case, the practical experience shall include a representative cross section of maintenance activities relevant to the licence category.

In the case of a category C rating, for a person qualified through the academic route as referred to in point (a)(5) of point 66.A.30, the first relevant aircraft type examination shall be at the category B1 or B2 level.

(e) For Group 2 aircraft:

(i) the endorsement of manufacturer subgroup ratings for category B1 and C licence holders requires complying with the aircraft type rating requirements for at least two aircraft types from the same manufacturer, which combined are representative of the applicable manufacturer subgroup;

(ii) the endorsement of full subgroup ratings for category B1 and C licence holders requires complying with the aircraft type rating requirements for at least three aircraft types from different manufacturers, which combined are representative of the applicable subgroup;

(iii) the endorsement of manufacturer subgroup and full subgroup ratings for category B2 and B2L licence holders requires demonstration of practical experience which shall include a representative cross section of maintenance activities relevant to the licence category and to the applicable aircraft subgroup and, in the case of the B2L licence, relevant to the applicable system rating(s);

(iv) by derogation from point (e)(iii), the holder of a B2 or B2L licence, endorsed with a full subgroup 2b, is entitled to be endorsed with a full subgroup 2c.

(f) For Group 3 and 4 aircraft:

(i) the endorsement of the full Group 3 rating for category B1, B2, B2L and C licence holders and the endorsement of the full Group 4 rating for B2 and B2L licence holders require demonstration of practical experience, which shall include a representative cross section of maintenance activities relevant to the licence category and to Group 3 or 4, as applicable;

(ii) for category B1, unless the applicant provides evidence of appropriate experience, Group 3 rating shall be subject to the following limitations, which shall be endorsed on the licence:

— pressurised aeroplanes,

— metal-structure aeroplanes,

— composite-structure aeroplanes,

— wooden-structure aeroplanes,

— aeroplanes with metal-tubing structure covered with fabric;

(iii) by derogation from point (f)(i), the holder of a B2L licence, endorsed with a full subgroup 2a or 2b, is entitled to be endorsed with Groups 3 and 4.

(g) For the B3 licence:

(i) the endorsement of the rating ‘piston engine non-pressurised aeroplanes of 2 000 kg MTOM and below’ requires demonstration of practical experience, which shall include a representative cross section of maintenance activities relevant to the licence category;

(ii) unless the applicant provides evidence of appropriate experience, the rating referred to in point (i) shall be subject to the following limitations, which shall be endorsed on the licence:

— wooden-structure aeroplanes,

— aeroplanes with metal-tubing structure covered with fabric,

— metal-structure aeroplanes,

— composite-structure aeroplanes.

(h) For all L licence subcategories, other than L5:

(i) the endorsement of ratings requires demonstration of practical experience which shall include a representative cross section of maintenance activities relevant to the licence subcategory;

(ii) unless the applicant provides evidence of appropriate experience, the ratings shall be subject to the following limitations, which shall be endorsed on the licence:

(1) for ratings 'sailplanes' and 'powered sailplanes and ELA1 aeroplanes':

— wooden-structure aircraft covered with fabric,

— aircraft with metal-tubing structure covered with fabric,

— metal-structure aircraft,

— composite-structure aircraft,

(2) for the rating 'gas balloons':

— other than ELA1 gas balloons; and

(3) if the applicant has only provided evidence of one-year experience in accordance with the derogation contained in point 66.A.30(a)(2b)(ii), the following limitation shall be endorsed on the licence:

'complex maintenance tasks provided for in Appendix VII to Annex I (Part-M), standard changes provided for in point 21.A.90B of Annex I (Part-21) to Regulation (EU) No 748/2012 and standard repairs provided for in point 21.A.431B of Annex I (Part-21) to Regulation (EU) No 748/2012.'

The holder of an aircraft maintenance licence in subcategory B1.2 endorsed with the Group 3 rating, or in category B3 endorsed with the rating 'piston engine non-pressurised aeroplanes of 2 000 kg MTOM and below', is deemed to meet the requirements for the issuance of a licence in subcategories L1 and L2 with the corresponding full ratings and with the same limitations as the B1.2/B3 licence held.

66.A.50 Limitations

Regulation (EU) 2018/1142

(a) Limitations introduced on an aircraft maintenance licence are exclusions from the certification privileges and, in the case of limitations referred to in point 66.A.45, they affect the aircraft in its entirety.

(b) For limitations referred to in point 66.A.45, limitations shall be removed upon:

1. demonstration of appropriate experience; or

2. after a satisfactory practical assessment performed by the competent authority.

(c) For limitations referred to in point 66.A.70, limitations shall be removed upon satisfactory completion of examination on those modules/subjects defined in the applicable conversion report referred to in point 66.B.300.

66.A.55 Evidence of qualification

Regulation (EU) No 1321/2014

Personnel exercising certification privileges as well as support staff shall produce their licence, as evidence of qualification, within 24 hours upon request by an authorised person.

66.A.70 Conversion provisions

Regulation (EU) 2018/1142

(a) The holder of a certifying staff qualification valid in a Member State, prior to the date of entry into force of Annex III (Part-66) shall be issued an aircraft maintenance licence by the competent authority of this Member State without further examination subject to the conditions specified in Section B Subpart D.

(b) A person undergoing a certifying staff qualification process valid in a Member State, prior to the date of entry into force of Annex III (Part-66) may continue to be qualified. The holder of a certifying staff qualification gained following such process shall be issued an aircraft maintenance licence by the competent authority of this Member State without further examination subject to the conditions specified in Section B Subpart D.

(c) Where necessary, the aircraft maintenance licence shall contain limitations in accordance with point 66.A.50 to reflect the differences between:

(i) the scope of the certifying staff qualification valid in the Member State before the entry into force of the applicable licence category or subcategory provided for in this Annex (Part-66);

(ii) the basic knowledge requirements and the basic examination standards laid down in Appendices I and II to this Annex (Part-66).

(d) By derogation from point (c), for aircraft not used by licenced air carriers in accordance with Regulation (EC) No 1008/2008, other than complex motor-powered aircraft, and for balloons, sailplanes, motor-powered sailplanes and airships, the aircraft maintenance licence shall contain limitations in accordance with point 66.A.50 to ensure that the certifying staff privileges valid in the Member State before the entry into force of the applicable Part-66 licence category/subcategory and those of the converted Part-66 aircraft maintenance licence remain the same.

SECTION B — PROCEDURES FOR COMPETENT AUTHORITIES

SUBPART A — GENERAL

66.B.1 Scope

Regulation (EU) No 1321/2014

This section establishes the procedures including the administrative requirements to be followed by the competent authorities in charge of the implementation and the enforcement of Section A of this Annex (Part-66).

66.B.10 Competent authority

Regulation (EU) No 1321/2014

(a) General

The Member State shall designate a competent authority with allocated responsibilities for the issuance, continuation, change, suspension or revocation of aircraft maintenance licences.

This competent authority shall establish an adequate organisational structure to ensure compliance with this Annex (Part-66).

(b) Resources

The competent authority shall be appropriately staffed to ensure the implementation of the requirements of this Annex (Part-66).

(c) Procedures

The competent authority shall establish documented procedures detailing how compliance with this Annex (Part-66) is accomplished. These procedures shall be reviewed and amended to ensure continued compliance.

66.B.20 Record-keeping

Regulation (EU) No 1321/2014

(a) The competent authority shall establish a system of record-keeping that allows adequate traceability of the process to issue, revalidate, change, suspend or revoke each aircraft maintenance licence.

(b) These records shall include for each licence:

1. the application for an aircraft maintenance licence or change to that licence, including all supporting documentation;
2. a copy of the aircraft maintenance licence including any changes;
3. copies of all relevant correspondence;
4. details of any exemption and enforcement actions;
5. any report from other competent authorities relating to the aircraft maintenance licence holder;
6. the records of examinations conducted by the competent authority;
7. the applicable conversion report used for conversion;

8. the applicable credit report used for crediting.

(c) Records referred to in points 1 to 5 of point (b) shall be kept at least 5 years after the end of the licence validity.

(d) Records referred to in points 6, 7 and 8 of point (b) shall be kept for an unlimited period.

66.B.25 Mutual exchange of information

Regulation (EU) 2019/1383

(a) The competent authorities shall participate in a mutual exchange of information in accordance with Article 72(1) of Regulation (EU) 2018/1139.

(b) Without prejudice to the competencies of the Member States, in the case of a potential safety threat involving several Member States, the concerned competent authorities shall assist each other in carrying out the necessary oversight action.

66.B.30 Exemptions

Regulation (EU) 2019/1383

All exemptions granted in accordance with Article 71(1) of Regulation (EU) 2018/1139 shall be recorded and retained by the competent authority.

SUBPART B — ISSUE OF AN AIRCRAFT MAINTENANCE LICENCE

Regulation (EU) No 1321/2014

This Subpart provides the procedures to be followed by the competent authority to issue, change or continue an aircraft maintenance licence.

66.B.100 Procedure for the issue of an aircraft maintenance licence by the competent authority

Regulation (EU) 2018/1142

(a) On receipt of EASA Form 19 and any supporting documentation, the competent authority shall verify EASA Form 19 for completeness and ensure that the experience claimed meets the requirement of this Annex (Part-66).

(b) The competent authority shall verify an applicant's examination status and/or confirm the validity of any credits to ensure that all module requirements of Appendix I or Appendix VII, as applicable, have been met as required by this Annex (Part-66).

(c) When having verified the identity and date of birth of the applicant and being satisfied that the applicant meets the standards of knowledge and experience required by this Annex (Part-66), the competent authority shall issue the relevant aircraft maintenance licence to the applicant. The same information shall be kept on competent authority records.

(d) In the case where aircraft types or groups are endorsed at the time of the issuance of the first aircraft maintenance licence, the competent authority shall verify compliance with point 66.B.115.

66.B.105 Procedure for the issue of an aircraft maintenance licence via a maintenance organisation approved in accordance with Annex II (Part-145)

Regulation (EU) No 1321/2014

(a) A maintenance organisation approved in accordance with Annex II (Part-145), when authorised to carry out this activity by the competent authority, may (i) prepare the aircraft maintenance licence on behalf of the competent authority or (ii) make recommendations to the competent authority regarding the application from an individual for a aircraft maintenance licence so that the competent authority may prepare and issue such licence.

(b) Maintenance organisations referred to in point (a) shall ensure compliance with points 66.B.100(a) and (b).

(c) In all cases, the aircraft maintenance licence can only be issued to the applicant by the competent authority.

66.B.110 Procedure for the change of an aircraft maintenance licence to include an additional basic category or subcategory

Regulation (EU) 2018/1142

(a) At the completion of the procedures specified in points 66.B.100 or 66.B.105, the competent authority shall endorse the additional basic category, subcategory or, for category B2L, system rating(s) on the aircraft maintenance licence by stamp and signature or shall reissue the licence.

(b) The record system of the competent authority shall be changed accordingly.

(c) Upon request by the applicant, the competent authority shall replace a licence in category B2L with a licence in category B2 endorsed with the same aircraft rating(s) when the holder has demonstrated both of the following:

(i) by examination the differences between the basic knowledge corresponding to the B2L licence held and the basic knowledge of the B2 licence, as set out in Appendix I;

(ii) the practical experience required in Appendix IV.

(d) In the case of a holder of an aircraft maintenance licence in subcategory B1.2 endorsed with the Group 3 rating or in category B3 endorsed with the rating 'piston engine non-pressurised aeroplanes of 2 000 kg MTOM and below', the competent authority shall issue, upon application, a fully rated licence in subcategories L1 and L2, with the same limitations as the B1.2/B3 licence held.

66.B.115 Procedure for the change of an aircraft maintenance licence to include an aircraft rating or to remove limitations

Regulation (EU) 2018/1142

(a) On receipt of a satisfactory EASA Form 19 and any supporting documentation demonstrating compliance with the requirements of the applicable rating together with the accompanying aircraft maintenance licence, the competent authority shall either:

1. endorse the applicant's aircraft maintenance licence with the applicable aircraft rating; or

2. reissue the said licence to include the applicable aircraft rating; or

3. remove the applicable limitations in accordance with point 66.A.50.

The competent authority record system shall be changed accordingly.

(b) In the case where the complete type training is not conducted by maintenance training organisation appropriately approved in accordance with Annex IV (Part-147), the competent authority shall be satisfied that all type training requirements are complied with before the type rating is issued.

(c) In the case where the On the Job Training is not required, the aircraft type rating shall be endorsed based on a Certificate of Recognition issued by a maintenance training organisation approved in accordance with Annex IV (part-147).

(d) In the case where the aircraft type training is not covered by a single course, the competent authority shall be satisfied prior to the type rating endorsement that the content and length of the courses fully satisfy the scope of the licence category and that the interface areas have been appropriately addressed.

(e) In the case of differences training, the competent authority shall be satisfied that (i) the applicant's previous qualification, supplemented by (ii) either a course approved in accordance with Annex IV (Part-147) or a course directly approved by the competent authority, are acceptable for type rating endorsement.

(f) The competent authority shall ensure that compliance with the practical elements of the type training is demonstrated by one of the following:

(i) by the provision of detailed practical training records or a logbook provided by the organisation which delivered the course directly approved by the competent authority in accordance with point 66.B.130;

(ii) where available, by a training certificate, covering the practical training element, issued by a maintenance training organisation appropriately approved in accordance with Annex IV (Part-147).

(g) Aircraft type endorsement shall use the aircraft type ratings specified by the Agency.

66.B.120 Procedure for the renewal of an aircraft maintenance licence validity

Regulation (EU) No 1321/2014

(a) The competent authority shall compare the holder's aircraft maintenance licence with the competent authority records and verify any pending revocation, suspension or change action pursuant to point 66.B.500. If the documents are identical and no action is pending pursuant to point 66.B.500, the holder's copy shall be renewed for 5 years and the file endorsed accordingly.

(b) If the competent authority records are different from the aircraft maintenance licence held by the licence holder:

1. the competent authority shall investigate the reasons for such differences and may choose not to renew the aircraft maintenance licence.

2. the competent authority shall inform the licence holder and any known maintenance organisation approved in accordance with Annex I (Part-M) Subpart F or Annex II (Part-145) that may be directly affected of such fact.

3. the competent authority shall, if necessary, take action in accordance with point 66.B.500 to revoke, suspend or change the licence in question.

66.B.125 Procedure for the conversion of licences including group ratings

Regulation (EU) 2018/1142

(a) Individual aircraft type ratings already endorsed on the aircraft maintenance licence referred to in point 4 of Article 5 shall remain on the licence and shall not be converted to new ratings unless the licence holder fully meets the requirements for endorsement defined in point 66.A.45 of this Annex (Part-66) for the corresponding group/sub-group ratings.

(b) The conversion shall be performed in accordance with the following conversion table:

1. for category B1 or C:

— helicopter piston engine, full group: converted to ‘full subgroup 2c’ plus the aircraft type ratings for those single piston engine helicopters which are in Group 1;

— helicopter piston engine, manufacturer group: converted to the corresponding ‘manufacturer subgroup 2c’ plus the aircraft type ratings for those single piston engine helicopters of that manufacturer which are in Group 1;

— helicopter turbine engine, full group: converted to ‘full subgroup 2b’ plus the aircraft type ratings for those single turbine engine helicopters which are in Group 1;

— helicopter turbine engine, manufacturer group: converted to the corresponding 'manufacturer subgroup 2b' plus the aircraft type ratings for those single turbine engine helicopters of that manufacturer which are in Group 1;

— aeroplane single piston engine — metal structure, either full group or manufacturer group: converted to 'full group 3'. For the B1 licence, the following limitations shall be included: composite-structure aeroplanes, wooden-structure aeroplanes, and metal-tubing and fabric aeroplanes;

— aeroplane multiple piston engines — metal structure, either full group or manufacturer group: converted to 'full group 3' plus the aircraft type ratings for those aeroplanes with multiple piston engines of the corresponding full/manufacturer group which are in Group 1. For the B1 licence, the following limitations shall be included: composite-structure aeroplanes, wooden-structure aeroplanes and metal-tubing and fabric aeroplanes;

— aeroplane single piston engine — wooden structure, either full group or manufacturer group: converted to 'full group 3'. For the B1 licence, the following limitations shall be included: pressurised aeroplanes, metal-structure aeroplanes, composite-structure aeroplanes and metal-tubing and fabric aeroplanes;

— aeroplane multiple piston engines — wooden structure, either full group or manufacturer group: converted to 'full group 3'. For the B1 licence, the following limitations shall be included: pressurised aeroplanes, metal-structure aeroplanes, composite-structure aeroplanes and metal-tubing and fabric aeroplanes;

— aeroplane single piston engine — composite structure, either full group or manufacturer group: converted to 'full group 3'. For the B1 licence, the following limitations shall be included: pressurised aeroplanes, metal-structure aeroplanes, wooden-structure aeroplanes and metal-tubing and fabric aeroplanes;

— aeroplane multiple piston engines — composite structure, either full group or manufacturer group: converted to 'full group 3'. For the B1 licence, the following limitations shall be included: pressurised aeroplanes, metal-structure aeroplanes, wooden-structure aeroplanes and metal-tubing and fabric aeroplanes;

— aeroplane turbine — single engine, full group: converted to 'full sub-group 2a' plus the aircraft type ratings for those single turboprop aeroplanes which did not require an aircraft type rating in the previous system and are in Group 1;

— aeroplane turbine — single engine, manufacturer group: converted to the corresponding 'manufacturer subgroup 2a' plus the aircraft type ratings for those single turboprop aeroplanes of that manufacturer which did not require an aircraft type rating in the previous system and are in Group 1;

— aeroplane turbine — multiple engines, full group: converted to the aircraft type ratings for those aeroplanes with multiple turboprop engines which did not require an aircraft type rating in the previous system.

2. for category B2:

— aeroplane: converted to 'full sub-group 2a' and 'full group 3', plus the aircraft type ratings for those aeroplanes which did not require an aircraft type rating in the previous system and are in group 1,

— helicopter: converted to 'full sub-groups 2b and 2c', plus the aircraft type ratings for those helicopters which did not require an aircraft type rating in the previous system and are in group 1;

3. for category C:

— aeroplane: converted to 'full sub-group 2a' and 'full group 3', plus the aircraft type ratings for those aeroplanes which did not require an aircraft type rating in the previous system and are in group 1,

— helicopter: converted to 'full sub-groups 2b and 2c', plus the aircraft type ratings for those helicopters which did not require an aircraft type rating in the previous system and are in group 1.

(c) If the licence was subject to limitations following the conversion process referred to in point 66.A.70, these limitations shall remain on the licence, unless they are removed under the conditions defined in the relevant conversion report referred to in point 66.B.300.

66.B.130 Procedure for the direct approval of aircraft type training

Regulation (EU) 2018/1142

(a) In the case of type training for aircraft other than airships, the competent authority may approve aircraft type training not conducted by a maintenance training organisation approved in accordance with Annex IV (Part-147), pursuant to point 1 of Appendix III to this Annex (part-66). In such case, the competent authority shall have a procedure to ensure that the aircraft type training complies with Appendix III to this Annex (Part-66).

(b) In the case of type training for airships in Group 1, the courses shall be directly approved by the competent authority in all cases. The competent authority shall have a procedure to ensure that the syllabus of the airship-type training covers all the elements contained in the maintenance data from the Design Approval Holder (DAH).

SUBPART C — EXAMINATIONS

Regulation (EU) No 1321/2014;

This Subpart provides the procedures to be followed for the examinations conducted by the competent authority.

66.B.200 Examination by the competent authority

Regulation (EU) 2018/1142

(a) All examination questions shall be kept in a secure manner prior to an examination, to ensure that candidates will not know which particular questions will form the basis of the examination.

(b) The competent authority shall nominate:

1. persons who control the questions to be used for each examination;
2. examiners who shall be present during all examinations to ensure the integrity of the examination.

(c) Basic examinations shall follow the standard specified in Appendices I and II or in Appendices VII and VIII to this Annex (Part-66), as applicable.

(d) Type training examinations and type examinations shall follow the standard specified in Appendix III to this Annex (Part-66).

(e) New essay questions shall be raised at least every 6 months and questions already used withdrawn or rested from use. A record of the questions used shall be retained in the records for reference.

(f) All examination papers shall be handed out at the start of the examination to the candidate and handed back to the examiner at the end of the allotted examination time period. No examination paper may be removed from the examination room during the allotted examination time period.

(g) Apart from specific documentation needed for type examinations, only the examination paper may be available to the candidate during the examination.

(h) Examination candidates shall be separated from each other so that they cannot read each other's examination papers. They may not speak to any person other than the examiner.

(i) Candidates who are proven to be cheating shall be banned from taking any further examination within 12 months of the date of the examination in which they were found cheating.

SUBPART D — CONVERSION OF CERTIFYING STAFF QUALIFICATIONS

Regulation (EU) No 1321/2014

This Subpart provides the procedures for the conversion of certifying staff qualifications referred to in point 66.A.70 to aircraft maintenance licences.

66.B.300 General

Regulation (EU) No 1321/2014

(a) The competent authority may only convert qualifications

(i) obtained in the Member State for which it is competent, without prejudice to bilateral agreements and

(ii) valid prior to the entry into force of the applicable requirements of this Annex (Part-66).

(b) The competent authority may only perform the conversion in accordance with a conversion report established pursuant to points 66.B.305 or 66.B.310, as applicable.

(c) Conversion reports shall be either

(i) developed by the competent authority or

(ii) approved by the competent authority to ensure compliance with this Annex (Part-66).

(d) Conversion reports together with any change of these shall be kept on record by the competent authority in accordance with point 66.B.20.

66.B.305 Conversion report for national qualifications

Regulation (EU) 2018/1142

(a) The conversion report for national certifying staff qualifications shall describe the scope of each type of qualification, including the associated national licence, if any, the associated privileges and include a copy of the relevant national regulations defining these.

(b) The conversion report shall show for each type of qualification referred to in point (a):

1. to which aircraft maintenance licence it will be converted; and

2. which limitations shall be added in accordance with points 66.A.70(c) or (d), as applicable; and

3. the conditions to remove the limitations, specifying the module/subjects on which examination is needed to remove the limitations and obtain a full aircraft maintenance licence, or to include an additional (sub-) category. This shall include the modules defined in Appendix I to this Annex (Part-66) not covered by the national qualification.

66.B.310 Conversion report for approved maintenance organisations authorisations

Regulation (EU) No 1321/2014

(a) For each approved maintenance organisation concerned, the conversion report shall describe the scope of each type of authorisation issued by the maintenance organisation and include a copy of the relevant approved maintenance organisation's procedures for the qualification and the authorisation of certifying staff on which the conversion process is based.

(b) The conversion report shall show for each type of authorisation referred to in point (a):

1. to which aircraft maintenance licence it will be converted, and

2. which limitations shall be added in accordance with points 66.A.70(c) or (d), as applicable, and

3. the conditions to remove the limitations, specifying the module/subjects on which examination is needed to remove the limitations and obtain a full aircraft maintenance licence, or to include an additional (sub-) category. This shall include the modules defined in Appendix III to this Annex (Part-66) not covered by the national qualification.

SUBPART E — EXAMINATION CREDITS

Regulation (EU) No 1321/2014

This Subpart provides the procedures for granting examination credits referred to in point 66.A.25(c).

66.B.400 General

Regulation (EU) No 1321/2014

(a) The competent authority may only grant credit on the basis of a credit report prepared in accordance with point 66.B.405.

(b) The credit report shall be either

(i) developed by the competent authority or

(ii) approved by the competent authority to ensure compliance with this Annex (Part-66).

(c) Credit reports together with any change of these shall be dated and kept on record by the competent authority in accordance with point 66.B.20.

66.B.405 Examination credit report

Regulation (EU) 2018/1142

(a) The credit report shall include a comparison between the following:

(i) the modules, submodules, subjects and knowledge levels contained in Appendices I or VII to this Annex (Part-66), as applicable;

(ii) the syllabus of the technical qualification concerned, relevant to the particular category being sought.

This comparison shall state whether compliance has been demonstrated and contain the justifications for each statement.

(b) Credits for examinations, other than basic knowledge examinations carried out in maintenance training organisations approved in accordance with Annex IV (Part-147), can only be granted by the competent authority of the Member State in which the qualification has been obtained, unless a formal agreement exists with such competent authority advising otherwise.

(c) No credit can be granted unless there is a statement of compliance for each module and submodule, indicating where the equivalent standard can be found in the technical qualification.

(d) The competent authority shall check on a regular basis whether the following have changed:

(i) the national qualification standard;

(ii) Appendices I or VII to this Annex (Part-66), as applicable.

The competent authority shall also assess if changes to the credit report are consequently required. Such changes shall be documented, dated and recorded.

66.B.410 Examination credit validity

Regulation (EU) 2018/1142

(a) The competent authority shall notify to the applicant in writing any credits granted together with the reference to the credit report used.

(b) Credits shall expire 10 years after they are granted.

(c) Upon expiration of the credits, the applicant may apply for new credits. The competent authority shall extend the validity of the credits for an additional period of 10 years without further consideration if the basic knowledge requirements defined in Appendices I or VII to this Annex (Part-66), as applicable, have not been changed.

SUBPART F — CONTINUING OVERSIGHT

Regulation (EU) No 1321/2014

This Subpart describes the procedures for the continuing oversight of the aircraft maintenance licence and in particular for the revocation, suspension or limitation of the aircraft maintenance licence.

66.B.500 Revocation, suspension or limitation of the aircraft maintenance licence

Regulation (EU) No 1321/2014

The competent authority shall suspend, limit or revoke the aircraft maintenance licence where it has identified a safety issue or if it has clear evidence that the person has carried out or been involved in one or more of the following activities:

1. obtaining the aircraft maintenance licence and/or the certification privileges by falsification of documentary evidence;
2. failing to carry out requested maintenance combined with failure to report such fact to the organisation or person who requested the maintenance;
3. failing to carry out required maintenance resulting from own inspection combined with failure to report such fact to the organisation or person for whom the maintenance was intended to be carried out;
4. negligent maintenance;
5. falsification of the maintenance record;
6. issuing a certificate of release to service knowing that the maintenance specified on the certificate of release to service has not been carried out or without verifying that such maintenance has been carried out;
7. carrying out maintenance or issuing a certificate of release to service when adversely affected by alcohol or drugs;
8. issuing certificate of release to service while not in compliance with Annex I (Part-M), Annex II (Part-145) or Annex III (Part-66).

APPENDICES TO ANNEX III (PART-66)

Appendix I — Basic Knowledge Requirements (except for category L licence)

1. Knowledge levels for Category A, B1, B2, B2L, B3 and C aircraft maintenance licences

Regulation (EU) 2018/1142

Basic knowledge for categories A, B1, B2, B2L and B3 is indicated by knowledge levels (1, 2 or 3) of each applicable subject. Category C applicants shall meet either the category B1 or the category B2 basic knowledge levels.

The knowledge level indicators are defined on 3 levels as follows:

— LEVEL 1: A familiarisation with the principal elements of the subject.

Objectives:

(a) The applicant should be familiar with the basic elements of the subject.

(b) The applicant should be able to give a simple description of the whole subject, using common words and examples.

(c) The applicant should be able to use typical terms.

— LEVEL 2: A general knowledge of the theoretical and practical aspects of the subject and an ability to apply that knowledge.

Objectives:

(a) The applicant should be able to understand the theoretical fundamentals of the subject.

(b) The applicant should be able to give a general description of the subject using, as appropriate, typical examples.

(c) The applicant should be able to use mathematical formulae in conjunction with physical laws describing the subject.

(d) The applicant should be able to read and understand sketches, drawings and schematics describing the subject.

(e) The applicant should be able to apply his knowledge in a practical manner using detailed procedures.

— LEVEL 3: A detailed knowledge of the theoretical and practical aspects of the subject and a capacity to combine and apply the separate elements of knowledge in a logical and comprehensive manner.

Objectives:

(a) The applicant should know the theory of the subject and interrelationships with other subjects.

(b) The applicant should be able to give a detailed description of the subject using theoretical fundamentals and specific examples.

(c) The applicant should understand and be able to use mathematical formulae related to the subject.

(d) The applicant should be able to read, understand and prepare sketches, simple drawings and schematics describing the subject.

(e) The applicant should be able to apply his knowledge in a practical manner using manufacturer's instructions.

(f) The applicant should be able to interpret results from various sources and measurements and apply corrective action where appropriate.

2. Modularisation

Regulation (EU) 2018/1142

Qualification on basic subjects for each aircraft maintenance licence category or subcategory shall be in accordance with the following matrix, where applicable subjects are indicated by an 'X':

For categories A, B1 and B3:

Subject module	A or B1 aeroplane with:		A or B1 helicopter with:		B3
	Turbine engine(s)	Piston engine(s)	Turbine engine(s)	Piston engine(s)	Piston engine non-pressurised aeroplanes 2 000 kg MTOM and below
1	X	X	X	X	X
2	X	X	X	X	X
3	X	X	X	X	X
4	X	X	X	X	X
5	X	X	X	X	X
6	X	X	X	X	X
7A	X	X	X	X	
7B					X
8	X	X	X	X	X
9A	X	X	X	X	
9B					X
10	X	X	X	X	X
11A	X				
11B		X			
11C					X
12			X	X	
13					
14					
15	X		X		
16		X		X	X
17A	X	X			
17B					X

For categories B2 and B2L:

Subject module/submodules	B2	B2L
1	X	X
2	X	X
3	X	X
4	X	X
5	X	X
6	X	X
7A	X	X
7B		
8	X	X
9A	X	X
9B		
10	X	X
11A		
11B		
11C		
12		
13.1 and 13.2	X	X
13.3(a)	X	X (for system rating 'Autoflight')
13.3(b)	X	
13.4(a)	X	X (for system rating 'Com/Nav')
13.4(b)	X	X (for system rating 'Surveillance')
13.4(c)	X	
13.5	X	X
13.6	X	
13.7	X	X (for system rating 'Autoflight')
13.8	X	X (for system rating 'Instruments')
13.9	X	X
13.10	X	
13.11 to 13.18	X	X (for system rating 'Airframe systems')
13.19 to 13.22	X	
14	X	X (for system rating 'instruments' and 'Airframe systems')
15		
16		
17A		
17B		

MODULE 1. MATHEMATICS

Regulation (EU) 2018/1142

MODULE 1. MATHEMATICS	LEVEL			
	A	B1	B2 B2L	B3
1.1 Arithmetic Arithmetical terms and signs, methods of multiplication and division, fractions and decimals, factors and multiples, weights, measures and conversion factors, ratio and proportion, averages and percentages, areas and volumes, squares, cubes, square and cube roots.	1	2	2	2
1.2 Algebra (a) Evaluating simple algebraic expressions, addition, subtraction, multiplication and division, use of brackets, simple algebraic fractions;	1	2	2	2
(b) Linear equations and their solutions; Indices and powers, negative and fractional indices; Binary and other applicable numbering systems; Simultaneous equations and second degree equations with one unknown; Logarithms.	—	1	1	1
1.3 Geometry (a) Simple geometrical constructions;	—	1	1	1
(b) Graphical representation; nature and uses of graphs, graphs of equations/functions;	2	2	2	2
(c) Simple trigonometry; trigonometrical relationships, use of tables and rectangular and polar coordinates.	—	2	2	2

MODULE 2. PHYSICS

Regulation (EU) 2018/1142

MODULE 2. PHYSICS	LEVEL			
	A	B1	B2 B2L	B3
2.1 Matter Nature of matter: the chemical elements, structure of atoms, molecules; Chemical compounds; States: solid, liquid and gaseous; Changes between states.	1	1	1	1
2.2 Mechanics *2.2.1 Statics* Forces, moments and couples, representation as vectors; Centre of gravity; Elements of theory of stress, strain and elasticity: tension, compression, shear and torsion; Nature and properties of solid, fluid and gas; Pressure and buoyancy in liquids (barometers).	1	2	1	1
2.2.2 Kinetics Linear movement: uniform motion in a straight line, motion under constant acceleration (motion under gravity); Rotational movement: uniform circular motion (centrifugal/centripetal forces); Periodic motion: pendular movement; Simple theory of vibration, harmonics and resonance; Velocity ratio, mechanical advantage and efficiency.	1	2	1	1
2.2.3 Dynamics (a) Mass; Force, inertia, work, power, energy (potential, kinetic and total energy), heat, efficiency;	1	2	1	1
(b) Momentum, conservation of momentum; Impulse; Gyroscopic principles; Friction: nature and effects, coefficient of friction (rolling resistance).	1	2	2	1
2.2.4 Fluid dynamics (a) Specific gravity and density;	2	2	2	2
(b) Viscosity, fluid resistance, effects of streamlining; Effects of compressibility on fluids; Static, dynamic and total pressure: Bernoulli's Theorem, venturi.	1	2	1	1
2.3 Thermodynamics (a) Temperature: thermometers and temperature scales: Celsius, Fahrenheit and Kelvin; Heat definition;	2	2	2	2
(b) Heat capacity, specific heat; Heat transfer: convection, radiation and conduction; Volumetric expansion; First and second law of thermodynamics; Gases: ideal gases laws; specific heat at constant volume and constant pressure, work done by expanding gas;	—	2	2	1

MODULE 2. PHYSICS	LEVEL			
	A	B1	B2 B2L	B3
Isothermal, adiabatic expansion and compression, engine cycles, constant volume and constant pressure, refrigerators and heat pumps; Latent heats of fusion and evaporation, thermal energy, heat of combustion.				
2.4 Optics (Light) Nature of light; speed of light; Laws of reflection and refraction: reflection at plane surfaces, reflection by spherical mirrors, refraction, lenses; Fibre optics.	—	2	2	—
2.5 Wave Motion and Sound Wave motion: mechanical waves, sinusoidal wave motion, interference phenomena, standing waves; Sound: speed of sound, production of sound, intensity, pitch and quality, Doppler effect.	—	2	2	—

MODULE 3. ELECTRICAL FUNDAMENTALS

Regulation (EU) 2018/1142

MODULE 3. ELECTRICAL FUNDAMENTALS	LEVEL			
	A	B1	B2 B2L	B3
3.1 Electron Theory Structure and distribution of electrical charges within: atoms, molecules, ions, compounds; Molecular structure of conductors, semiconductors and insulators.	1	1	1	1
3.2 Static Electricity and Conduction Static electricity and distribution of electrostatic charges; Electrostatic laws of attraction and repulsion; Units of charge, Coulomb's Law; Conduction of electricity in solids, liquids, gases and a vacuum.	1	2	2	1
3.3 Electrical Terminology The following terms, their units and factors affecting them: potential difference, electromotive force, voltage, current, resistance, conductance, charge, conventional current flow, electron flow.	1	2	2	1
3.4 Generation of Electricity Production of electricity by the following methods: light, heat, friction, pressure, chemical action, magnetism and motion.	1	1	1	1
3.5 DC Sources of Electricity Construction and basic chemical action of: primary cells, secondary cells, lead acid cells, nickel cadmium cells, other alkaline cells; Cells connected in series and parallel; Internal resistance and its effect on a battery; Construction, materials and operation of thermocouples; Operation of photo-cells.	1	2	2	2
3.6 DC Circuits Ohms Law, Kirchoff's Voltage and Current Laws; Calculations using the above laws to find resistance, voltage and current; Significance of the internal resistance of a supply.	—	2	2	1
3.7 Resistance/Resistor (a) Resistance and affecting factors; Specific resistance; Resistor colour code, values and tolerances, preferred values, wattage ratings; Resistors in series and parallel; Calculation of total resistance using series, parallel and series parallel combinations; Operation and use of potentiometers and rheostats; Operation of Wheatstone Bridge;	—	2	2	1
(b) Positive and negative temperature coefficient conductance; Fixed resistors, stability, tolerance and limitations, methods of construction; Variable resistors, thermistors, voltage dependent resistors; Construction of potentiometers and rheostats; Construction of Wheatstone Bridge.	—	1	1	—

MODULE 3. ELECTRICAL FUNDAMENTALS	LEVEL			
	A	B1	B2 B2L	B3
3.8 Power Power, work and energy (kinetic and potential); Dissipation of power by a resistor; Power formula; Calculations involving power, work and energy.	—	2	2	1
3.9 Capacitance/Capacitor Operation and function of a capacitor; Factors affecting capacitance area of plates, distance between plates, number of plates, dielectric and dielectric constant, working voltage, voltage rating; Capacitor types, construction and function; Capacitor colour coding; Calculations of capacitance and voltage in series and parallel circuits; Exponential charge and discharge of a capacitor, time constants; Testing of capacitors.	—	2	2	1
3.10 Magnetism (a) Theory of magnetism; Properties of a magnet; Action of a magnet suspended in the Earth's magnetic field; Magnetisation and demagnetisation; Magnetic shielding; Various types of magnetic material; Electromagnets construction and principles of operation; Hand clasp rules to determine: magnetic field around current carrying conductor;	—	2	2	1
(b) Magnetomotive force, field strength, magnetic flux density, permeability, hysteresis loop, retentivity, coercive force reluctance, saturation point, eddy currents; Precautions for care and storage of magnets.	—	2	2	1
3.11 Inductance/Inductor Faraday's Law; Action of inducing a voltage in a conductor moving in a magnetic field; Induction principles; Effects of the following on the magnitude of an induced voltage: magnetic field strength, rate of change of flux, number of conductor turns; Mutual induction; The effect the rate of change of primary current and mutual inductance has on induced voltage; Factors affecting mutual inductance: number of turns in coil, physical size of coil, permeability of coil, position of coils with respect to each other; Lenz's Law and polarity determining rules; Back emf, self induction; Saturation point; Principle uses of inductors.	—	2	2	1

MODULE 3. ELECTRICAL FUNDAMENTALS	LEVEL			
	A	B1	B2 B2L	B3
3.12 DC Motor/Generator Theory Basic motor and generator theory; Construction and purpose of components in DC generator; Operation of, and factors affecting output and direction of current flow in DC generators; Operation of, and factors affecting output power, torque, speed and direction of rotation of DC motors; Series wound, shunt wound and compound motors; Starter Generator construction.	—	2	2	1
3.13 AC Theory Sinusoidal waveform: phase, period, frequency, cycle; Instantaneous, average, root mean square, peak, peak to peak current values and calculations of these values, in relation to voltage, current and power; Triangular/Square waves; Single/3 phase principles.	1	2	2	1
3.14 Resistive (R), Capacitive (C) and Inductive (L) Circuits Phase relationship of voltage and current in L, C and R circuits, parallel, series and series parallel; Power dissipation in L, C and R circuits; Impedance, phase angle, power factor and current calculations; True power, apparent power and reactive power calculations.	—	2	2	1
3.15 Transformers Transformer construction principles and operation; Transformer losses and methods for overcoming them; Transformer action under load and no-load conditions; Power transfer, efficiency, polarity markings; Calculation of line and phase voltages and currents; Calculation of power in a three phase system; Primary and Secondary current, voltage, turns ratio, power, efficiency; Auto transformers.	—	2	2	1
3.16 Filters Operation, application and uses of the following filters: low pass, high pass, band pass, band stop.	—	1	1	—
3.17 AC Generators Rotation of loop in a magnetic field and waveform produced; Operation and construction of revolving armature and revolving field type AC generators; Single phase, two phase and three phase alternators; Three phase star and delta connections advantages and uses; Permanent Magnet Generators.	—	2	2	1
3.18 AC Motors Construction, principles of operation and characteristics of: AC synchronous and induction motors both single and polyphase; Methods of speed control and direction of rotation; Methods of producing a rotating field: capacitor, inductor, shaded or split pole.	—	2	2	1

MODULE 4. ELECTRONIC FUNDAMENTALS

Regulation (EU) 2018/1142

MODULE 4. ELECTRONIC FUNDAMENTALS	LEVEL			
	A	B1	B2 B2L	B3
4.1 Semiconductors *4.1.1 Diodes* (a) Diode symbols; Diode characteristics and properties; Diodes in series and parallel; Main characteristics and use of silicon controlled rectifiers (thyristors), light emitting diode, photo conductive diode, varistor, rectifier diodes; Functional testing of diodes.	—	2	2	1
(b) Materials, electron configuration, electrical properties; P and N type materials: effects of impurities on conduction, majority and minority characters; PN junction in a semiconductor, development of a potential across a PN junction in unbiased, forward biased and reverse biased conditions; Diode parameters: peak inverse voltage, maximum forward current, temperature, frequency, leakage current, power dissipation; Operation and function of diodes in the following circuits: clippers, clampers, full and half wave rectifiers, bridge rectifiers, voltage doublers and triplers; Detailed operation and characteristics of the following devices: silicon controlled rectifier (thyristor), light emitting diode, Schottky diode, photo conductive diode, varactor diode, varistor, rectifier diodes, Zener diode.	—	—	2	—
4.1.2 Transistors (a) Transistor symbols; Component description and orientation; Transistor characteristics and properties.	—	1	2	1
(b) Construction and operation of PNP and NPN transistors; Base, collector and emitter configurations; Testing of transistors; Basic appreciation of other transistor types and their uses; Application of transistors: classes of amplifier (A, B, C); Simple circuits including: bias, decoupling, feedback and stabilisation; Multistage circuit principles: cascades, push-pull, oscillators, multivibrators, flip-flop circuits.	—	—	2	—
4.1.3 Integrated Circuits (a) Description and operation of logic circuits and linear circuits/operational amplifiers;	—	1	—	1
(b) Description and operation of logic circuits and linear circuits; Introduction to operation and function of an operational amplifier used as: integrator, differentiator, voltage follower, comparator; Operation and amplifier stages connecting methods: resistive capacitive, inductive (transformer), inductive resistive (IR), direct;	—	—	2	—

MODULE 4. ELECTRONIC FUNDAMENTALS	LEVEL			
	A	B1	B2 B2L	B3
Advantages and disadvantages of positive and negative feedback.				
4.2 Printed Circuit Boards Description and use of printed circuit boards.	—	1	2	—
4.3 Servomechanisms (a) Understanding of the following terms: Open and closed loop systems, feedback, follow up, analogue transducers; Principles of operation and use of the following synchro system components/features: resolvers, differential, control and torque, transformers, inductance and capacitance transmitters;	—	1	—	—
(b) Understanding of the following terms: Open and closed loop, follow up, servomechanism, analogue, transducer, null, damping, feedback, deadband; Construction operation and use of the following synchro system components: resolvers, differential, control and torque, E and I transformers, inductance transmitters, capacitance transmitters, synchronous transmitters; Servomechanism defects, reversal of synchro leads, hunting.	—	—	2	—

MODULE 5. DIGITAL TECHNIQUES/ELECTRONIC INSTRUMENT SYSTEMS

Regulation (EU) 2018/1142

MODULE 5. DIGITAL TECHNIQUES/ELECTRONIC INSTRUMENT SYSTEMS	LEVEL				
	A	**B1.1 B1.3**	**B1.2 B1.4**	**B2 B2L**	**B3**
5.1 Electronic Instrument Systems Typical systems arrangements and cockpit layout of electronic instrument systems.	1	2	2	3	1
5.2 Numbering Systems Numbering systems: binary, octal and hexadecimal; Demonstration of conversions between the decimal and binary, octal and hexadecimal systems and vice versa.	—	1	—	2	—
5.3 Data Conversion Analogue Data, Digital Data; Operation and application of analogue to digital, and digital to analogue converters, inputs and outputs, limitations of various types.	—	1	—	2	—
5.4 Data Buses Operation of data buses in aircraft systems, including knowledge of ARINC and other specifications. Aircraft Network/Ethernet.	—	2	—	2	—
5.5 Logic Circuits (a) Identification of common logic gate symbols, tables and equivalent circuits; Applications used for aircraft systems, schematic diagrams.	—	2	—	2	—
(b) Interpretation of logic diagrams.	—	—	—	2	—
5.6 Basic Computer Structure (a) Computer terminology (including bit, byte, software, hardware, CPU, IC, and various memory devices such as RAM, ROM, PROM); Computer technology (as applied in aircraft systems).	1	2	—	—	—
(b) Computer related terminology; Operation, layout and interface of the major components in a micro computer including their associated bus systems; Information contained in single and multiaddress instruction words; Memory associated terms; Operation of typical memory devices; Operation, advantages and disadvantages of the various data storage systems.	—	—	—	2	—
5.7 Microprocessors Functions performed and overall operation of a microprocessor; Basic operation of each of the following microprocessor elements: control and processing unit, clock, register, arithmetic logic unit.	—	—	—	2	—

MODULE 5. DIGITAL TECHNIQUES/ELECTRONIC INSTRUMENT SYSTEMS	LEVEL				
	A	B1.1 B1.3	B1.2 B1.4	B2 B2L	B3
5.8 Integrated Circuits Operation and use of encoders and decoders; Function of encoder types; Uses of medium, large and very large scale integration.	—	—	—	2	—
5.9 Multiplexing Operation, application and identification in logic diagrams of multiplexers and demultiplexers.	—	—	—	2	—
5.10 Fibre Optics Advantages and disadvantages of fibre optic data transmission over electrical wire propagation; Fibre optic data bus; Fibre optic related terms; Terminations; Couplers, control terminals, remote terminals; Application of fibre optics in aircraft systems.	—	1	1	2	—
5.11 Electronic Displays Principles of operation of common types of displays used in modern aircraft, including Cathode Ray Tubes, Light Emitting Diodes and Liquid Crystal Display.	—	2	1	2	1
5.12 Electrostatic Sensitive Devices Special handling of components sensitive to electrostatic discharges; Awareness of risks and possible damage, component and personnel anti-static protection devices.	1	2	2	2	1
5.13 Software Management Control Awareness of restrictions, airworthiness requirements and possible catastrophic effects of unapproved changes to software programmes.	—	2	1	2	1
5.14 Electromagnetic Environment Influence of the following phenomena on maintenance practices for electronic system: EMC-Electromagnetic Compatibility EMI-Electromagnetic Interference HIRF-High Intensity Radiated Field Lightning/lightning protection.	—	2	2	2	1
5.15 Typical Electronic/Digital Aircraft Systems General arrangement of typical electronic/digital aircraft systems and associated BITE (Built In Test Equipment) such as: (a) For B1 and B2 only: ACARS-ARINC Communication and Addressing and Reporting System EICAS-Engine Indication and Crew Alerting System FBW-Fly-by-Wire FMS-Flight Management System IRS-Inertial Reference System; (b) For B1, B2 and B3: ECAM-Electronic Centralised Aircraft Monitoring	—	2	2	2	1

MODULE 5. DIGITAL TECHNIQUES/ELECTRONIC INSTRUMENT SYSTEMS	LEVEL				
	A	B1.1 B1.3	B1.2 B1.4	B2 B2L	B3
EFIS-Electronic Flight Instrument System GPS-Global Positioning System TCAS-Traffic Alert Collision Avoidance System Integrated Modular Avionics Cabin Systems Information Systems.					

MODULE 6. MATERIALS AND HARDWARE

Regulation (EU) 2018/1142

MODULE 6. MATERIALS AND HARDWARE	LEVEL			
	A	B1	B2 B2L	B3
6.1 Aircraft Materials — Ferrous (a) Characteristics, properties and identification of common alloy steels used in aircraft; Heat treatment and application of alloy steels.	1	2	1	2
(b) Testing of ferrous materials for hardness, tensile strength, fatigue strength and impact resistance.	—	1	1	1
6.2 Aircraft Materials — Non-Ferrous (a) Characteristics, properties and identification of common non-ferrous materials used in aircraft; Heat treatment and application of non-ferrous materials;	1	2	1	2
(b) Testing of non-ferrous material for hardness, tensile strength, fatigue strength and impact resistance.	—	1	1	1
6.3 Aircraft Materials — Composite and Non-Metallic *6.3.1 Composite and non-metallic other than wood and fabric* (a) Characteristics, properties and identification of common composite and non-metallic materials, other than wood, used in aircraft; Sealant and bonding agents;	1	2	2	2
(b) The detection of defects/deterioration in composite and non-metallic material; Repair of composite and non-metallic material.	1	2	—	2
6.3.2 Wooden structures Construction methods of wooden airframe structures; Characteristics, properties and types of wood and glue used in aeroplanes; Preservation and maintenance of wooden structure; Types of defects in wood material and wooden structures; The detection of defects in wooden structure; Repair of wooden structure.	1	2	—	2
6.3.3 Fabric covering Characteristics, properties and types of fabrics used in aeroplanes; Inspections methods for fabric; Types of defects in fabric; Repair of fabric covering.	1	2	—	2
6.4 Corrosion (a) Chemical fundamentals; Formation by, galvanic action process, microbiological, stress;	1	1	1	1
(b) Types of corrosion and their identification; Causes of corrosion; Material types, susceptibility to corrosion.	2	3	2	2
6.5 Fasteners *6.5.1 Screw threads* Screw nomenclature; Thread forms, dimensions and tolerances for standard threads used in aircraft; Measuring screw threads.	2	2	2	2

MODULE 6. MATERIALS AND HARDWARE	LEVEL			
	A	B1	B2 B2L	B3
6.5.2 Bolts, studs and screws Bolt types: specification, identification and marking of aircraft bolts, international standards; Nuts: self locking, anchor, standard types; Machine screws: aircraft specifications; Studs: types and uses, insertion and removal; Self tapping screws, dowels.	2	2	2	2
6.5.3 Locking devices Tab and spring washers, locking plates, split pins, pal-nuts, wire locking, quick release fasteners, keys, circlips, cotter pins.	2	2	2	2
6.5.4 Aircraft rivets Types of solid and blind rivets: specifications and identification, heat treatment.	1	2	1	2
6.6 Pipes and Unions (a) Identification of, and types of rigid and flexible pipes and their connectors used in aircraft;	2	2	2	2
(b) Standard unions for aircraft hydraulic, fuel, oil, pneumatic and air system pipes.	2	2	1	2
6.7 Springs Types of springs, materials, characteristics and applications.	—	2	1	1
6.8 Bearings Purpose of bearings, loads, material, construction; Types of bearings and their application.	1	2	2	1
6.9 Transmissions Gear types and their application; Gear ratios, reduction and multiplication gear systems, driven and driving gears, idler gears, mesh patterns; Belts and pulleys, chains and sprockets.	1	2	2	1
6.10 Control Cables Types of cables; End fittings, turnbuckles and compensation devices; Pulleys and cable system components; Bowden cables; Aircraft flexible control systems.	1	2	1	2
6.11 Electrical Cables and Connectors Cable types, construction and characteristics; High tension and co-axial cables; Crimping; Connector types, pins, plugs, sockets, insulators, current and voltage rating, coupling, identification codes.	1	2	2	2

MODULE 7A. MAINTENANCE PRACTICES

Regulation (EU) 2018/1142

Note: This module does not apply to category B3. Relevant subject matters for category B3 are defined in module 7B.

MODULE 7A. MAINTENANCE PRACTICES	LEVEL		
	A	**B1**	**B2 B2L**
7.1 Safety Precautions-Aircraft and Workshop Aspects of safe working practices including precautions to take when working with electricity, gases especially oxygen, oils and chemicals. Also, instruction in the remedial action to be taken in the event of a fire or another accident with one or more of these hazards including knowledge on extinguishing agents.	3	3	3
7.2 Workshop Practices Care of tools, control of tools, use of workshop materials; Dimensions, allowances and tolerances, standards of workmanship; Calibration of tools and equipment, calibration standards.	3	3	3
7.3 Tools Common hand tool types; Common power tool types; Operation and use of precision measuring tools; Lubrication equipment and methods. Operation, function and use of electrical general test equipment.	3	3	3
7.4 Avionic General Test Equipment Operation, function and use of avionic general test equipment.	—	2	3
7.5 Engineering Drawings, Diagrams and Standards Drawing types and diagrams, their symbols, dimensions, tolerances and projections; Identifying title block information; Microfilm, microfiche and computerised presentations; Specification 100 of the Air Transport Association (ATA) of America; Aeronautical and other applicable standards including ISO, AN, MS, NAS and MIL; Wiring diagrams and schematic diagrams.	1	2	2
7.6 Fits and Clearances Drill sizes for bolt holes, classes of fits; Common system of fits and clearances; Schedule of fits and clearances for aircraft and engines; Limits for bow, twist and wear; Standard methods for checking shafts, bearings and other parts.	1	2	1

MODULE 7A. MAINTENANCE PRACTICES	LEVEL		
	A	B1	B2 B2L
7.7 Electrical Wiring Interconnection System (EWIS) Continuity, insulation and bonding techniques and testing; Use of crimp tools: hand and hydraulic operated; Testing of crimp joints; Connector pin removal and insertion; Co-axial cables: testing and installation precautions; Identification of wire types, their inspection criteria and damage tolerance. Wiring protection techniques: Cable looming and loom support, cable clamps, protective sleeving techniques including heat shrink wrapping, shielding; EWIS installations, inspection, repair, maintenance and cleanliness standards.	1	3	3
7.8 Riveting Riveted joints, rivet spacing and pitch; Tools used for riveting and dimpling; Inspection of riveted joints.	1	2	—
7.9 Pipes and Hoses Bending and belling/flaring aircraft pipes; Inspection and testing of aircraft pipes and hoses; Installation and clamping of pipes.	1	2	—
7.10 Springs Inspection and testing of springs.	1	2	—
7.11 Bearings Testing, cleaning and inspection of bearings; Lubrication requirements of bearings; Defects in bearings and their causes.	1	2	—
7.12 Transmissions Inspection of gears, backlash; Inspection of belts and pulleys, chains and sprockets; Inspection of screw jacks, lever devices, push-pull rod systems.	1	2	—
7.13 Control Cables Swaging of end fittings; Inspection and testing of control cables; Bowden cables; aircraft flexible control systems.	1	2	—
7.14 Material handling *7.14.1 Sheet Metal* Marking out and calculation of bend allowance; Sheet metal working, including bending and forming; Inspection of sheet metal work.	—	2	—
7.14.2 Composite and non-metallic Bonding practices; Environmental conditions; Inspection methods.	—	2	—
7.15 Welding, Brazing, Soldering and Bonding (a) Soldering methods; inspection of soldered joints.	—	2	2
(b) Welding and brazing methods; Inspection of welded and brazed joints;	—	2	—

MODULE 7A. MAINTENANCE PRACTICES	LEVEL		
	A	B1	B2 B2L
Bonding methods and inspection of bonded joints.			
7.16 Aircraft Weight and Balance			
(a) Centre of Gravity/Balance limits calculation: use of relevant documents;	—	2	2
(b) Preparation of aircraft for weighing; Aircraft weighing.	—	2	—
7.17 Aircraft Handling and Storage	2	2	2
Aircraft taxiing/towing and associated safety precautions; Aircraft jacking, chocking, securing and associated safety precautions; Aircraft storage methods; Refuelling/defuelling procedures; De-icing/anti-icing procedures; Electrical, hydraulic and pneumatic ground supplies. Effects of environmental conditions on aircraft handling and operation.			
7.18 Disassembly, Inspection, Repair and Assembly Techniques			
(a) Types of defects and visual inspection techniques; Corrosion removal, assessment and reprotection;	2	3	3
(b) General repair methods, Structural Repair Manual; Ageing, fatigue and corrosion control programmes;	—	2	—
(c) Non-destructive inspection techniques including, penetrant, radiographic, eddy current, ultrasonic and boroscope methods;	—	2	1
(d) Disassembly and re-assembly techniques;	2	2	2
(e) Trouble shooting techniques.	—	2	2
7.19 Abnormal Events			
(a) Inspections following lightning strikes and HIRF penetration;	2	2	2
(b) Inspections following abnormal events such as heavy landings and flight through turbulence.	2	2	—
7.20 Maintenance Procedures	1	2	2
Maintenance planning; Modification procedures; Stores procedures; Certification/release procedures; Interface with aircraft operation; Maintenance Inspection/Quality Control/Quality Assurance; Additional maintenance procedures; Control of life limited components.			

MODULE 7B. MAINTENANCE PRACTICES

Regulation (EU) 2018/1142

Note: The scope of this module shall reflect the technology of aeroplanes relevant to the B3 category.

MODULE 7B. MAINTENANCE PRACTICES	LEVEL
	B3
7.1 Safety Precautions-Aircraft and Workshop Aspects of safe working practices including precautions to take when working with electricity, gases especially oxygen, oils and chemicals. Also, instruction in the remedial action to be taken in the event of a fire or another accident with one or more of these hazards including knowledge on extinguishing agents.	3
7.2 Workshop Practices Care of tools, control of tools, use of workshop materials; Dimensions, allowances and tolerances, standards of workmanship; Calibration of tools and equipment, calibration standards.	3
7.3 Tools Common hand tool types; Common power tool types; Operation and use of precision measuring tools; Lubrication equipment and methods; Operation, function and use of electrical general test equipment.	3
7.4 Avionic General Test Equipment Operation, function and use of avionic general test equipment.	1
7.5 Engineering Drawings, Diagrams and Standards Drawing types and diagrams, their symbols, dimensions, tolerances and projections; Identifying title block information; Microfilm, microfiche and computerised presentations; Specification 100 of the Air Transport Association (ATA) of America; Aeronautical and other applicable standards including ISO, AN, MS, NAS and MIL; Wiring diagrams and schematic diagrams.	2
7.6 Fits and Clearances Drill sizes for bolt holes, classes of fits; Common system of fits and clearances; Schedule of fits and clearances for aircraft and engines; Limits for bow, twist and wear; Standard methods for checking shafts, bearings and other parts.	2
7.7 Electrical Cables and Connectors Continuity, insulation and bonding techniques and testing; Use of crimp tools: hand and hydraulic operated; Testing of crimp joints; Connector pin removal and insertion; Co-axial cables: testing and installation precautions; Wiring protection techniques: Cable looming and loom support, cable clamps, protective sleeving techniques including heat shrink wrapping, shielding.	2
7.8 Riveting Riveted joints, rivet spacing and pitch; Tools used for riveting and dimpling; Inspection of riveted joints.	2

MODULE 7B. MAINTENANCE PRACTICES	LEVEL B3
7.9 Pipes and Hoses Bending and belling/flaring aircraft pipes; Inspection and testing of aircraft pipes and hoses; Installation and clamping of pipes.	2
7.10 Springs Inspection and testing of springs.	2
7.11 Bearings Testing, cleaning and inspection of bearings; Lubrication requirements of bearings; Defects in bearings and their causes.	2
7.12 Transmissions Inspection of gears, backlash; Inspection of belts and pulleys, chains and sprockets; Inspection of screw jacks, lever devices, push-pull rod systems.	2
7.13 Control Cables Swaging of end fittings; Inspection and testing of control cables; Bowden cables; aircraft flexible control systems.	2
7.14 Material handling *7.14.1 Sheet Metal* Marking out and calculation of bend allowance; Sheet metal working, including bending and forming; Inspection of sheet metal work.	2
7.14.2 Composite and non-metallic Bonding practices; Environmental conditions; Inspection methods.	2
7.15 Welding, Brazing, Soldering and Bonding (a) Soldering methods; inspection of soldered joints;	2
(b) Welding and brazing methods; Inspection of welded and brazed joints; Bonding methods and inspection of bonded joints.	2
7.16 Aircraft Weight and Balance (a) Centre of Gravity/Balance limits calculation: use of relevant documents;	2
(b) Preparation of aircraft for weighing; Aircraft weighing.	2
7.17 Aircraft Handling and Storage Aircraft taxiing/towing and associated safety precautions; Aircraft jacking, chocking, securing and associated safety precautions; Aircraft storage methods; Refuelling/defuelling procedures; De-icing/anti-icing procedures; Electrical, hydraulic and pneumatic ground supplies; Effects of environmental conditions on aircraft handling and operation.	2
7.18 Disassembly, Inspection, Repair and Assembly Techniques (a) Types of defects and visual inspection techniques; Corrosion removal, assessment and reprotection;	3
(b) General repair methods, Structural Repair Manual; Ageing, fatigue and corrosion control programmes;	2

MODULE 7B. MAINTENANCE PRACTICES	LEVEL
	B3
(c) Non-destructive inspection techniques including, penetrant, radiographic, eddy current, ultrasonic and boroscope methods;	2
(d) Disassembly and re-assembly techniques;	2
(e) Trouble shooting techniques.	2
7.19 Abnormal Events	
(a) Inspections following lightning strikes and HIRF penetration.	2
(b) Inspections following abnormal events such as heavy landings and flight through turbulence.	2
7.20 Maintenance Procedures Maintenance planning; Modification procedures; Stores procedures; Certification/release procedures; Interface with aircraft operation; Maintenance Inspection/Quality Control/Quality Assurance; Additional maintenance procedures; Control of life limited components.	2

MODULE 8. BASIC AERODYNAMICS

Regulation (EU) 2018/1142

MODULE 8. BASIC AERODYNAMICS	LEVEL			
	A	**B1**	**B2 B2L**	**B3**
8.1 Physics of the Atmosphere International Standard Atmosphere (ISA), application to aerodynamics.	1	2	2	1
8.2 Aerodynamics Airflow around a body; Boundary layer, laminar and turbulent flow, free stream flow, relative airflow, upwash and downwash, vortices, stagnation; The terms: camber, chord, mean aerodynamic chord, profile (parasite) drag, induced drag, centre of pressure, angle of attack, wash in and wash out, fineness ratio, wing shape and aspect ratio; Thrust, Weight, Aerodynamic Resultant; Generation of Lift and Drag: Angle of Attack, Lift coefficient, Drag coefficient, polar curve, stall; Aerofoil contamination including ice, snow, frost.	1	2	2	1
8.3 Theory of Flight Relationship between lift, weight, thrust and drag; Glide ratio; Steady state flights, performance; Theory of the turn; Influence of load factor: stall, flight envelope and structural limitations; Lift augmentation.	1	2	2	1
8.4 Flight Stability and Dynamics Longitudinal, lateral and directional stability (active and passive).	1	2	2	1

MODULE 9A. HUMAN FACTORS

Regulation (EU) 2018/1142

Note: This module does not apply to category B3. Relevant subject matters for category B3 are defined in module 9B.

MODULE 9A. HUMAN FACTORS	LEVEL		
	A	**B1**	**B2 B2L**
9.1 General The need to take human factors into account; Incidents attributable to human factors/human error; 'Murphy's' law.	1	2	2
9.2 Human Performance and Limitations Vision; Hearing; Information processing; Attention and perception; Memory; Claustrophobia and physical access.	1	2	2
9.3 Social Psychology Responsibility: individual and group; Motivation and de-motivation; Peer pressure; 'Culture' issues; Team working; Management, supervision and leadership.	1	1	1
9.4 Factors Affecting Performance Fitness/health; Stress: domestic and work related; Time pressure and deadlines; Workload: overload and underload; Sleep and fatigue, shiftwork; Alcohol, medication, drug abuse.	2	2	2
9.5 Physical Environment Noise and fumes; Illumination; Climate and temperature; Motion and vibration; Working environment.	1	1	1
9.6 Tasks Physical work; Repetitive tasks; Visual inspection; Complex systems.	1	1	1
9.7 Communication Within and between teams; Work logging and recording; Keeping up to date, currency; Dissemination of information.	2	2	2

MODULE 9A. HUMAN FACTORS	LEVEL		
	A	B1	B2 B2L
9.8 Human Error Error models and theories; Types of error in maintenance tasks; Implications of errors (i.e. accidents); Avoiding and managing errors.	1	2	2
9.9 Hazards in the Workplace Recognising and avoiding hazards; Dealing with emergencies.	1	2	2

MODULE 9B. HUMAN FACTORS

Regulation (EU) No 1321/2014

Note: The scope of this module shall reflect the less demanding environment of maintenance for B3 licence holders.

MODULE 9B. HUMAN FACTORS	LEVEL
	B3
9.1 General The need to take human factors into account; Incidents attributable to human factors/human error; 'Murphy's' law.	2
9.2 Human Performance and Limitations Vision; Hearing; Information processing; Attention and perception; Memory; Claustrophobia and physical access.	2
9.3 Social Psychology Responsibility: individual and group; Motivation and de-motivation; Peer pressure; 'Culture' issues; Team working; Management, supervision and leadership.	1
9.4 Factors Affecting Performance Fitness/health; Stress: domestic and work related; Time pressure and deadlines; Workload: overload and underload; Sleep and fatigue, shiftwork; Alcohol, medication, drug abuse.	2
9.5 Physical Environment Noise and fumes; Illumination; Climate and temperature; Motion and vibration; Working environment.	1
9.6 Tasks Physical work; Repetitive tasks; Visual inspection; Complex systems.	1
9.7 Communication Within and between teams; Work logging and recording; Keeping up to date, currency; Dissemination of information.	2

MODULE 9B. HUMAN FACTORS	LEVEL
	B3
9.8 Human Error Error models and theories; Types of error in maintenance tasks; Implications of errors (i.e. accidents); Avoiding and managing errors.	2
9.9 Hazards in the Workplace Recognising and avoiding hazards; Dealing with emergencies.	2

MODULE 10. AVIATION LEGISLATION

Regulation (EU) 2020/270

MODULE 10. AVIATION LEGISLATION	LEVEL			
	A	**B1**	**B2 B2L**	**B3**
10.1 Regulatory Framework Role of the International Civil Aviation Organisation; Role of the European Commission; Role of EASA; Role of the Member States and National Aviation Authorities; Regulations (EU) 2018/1139, Regulation (EU) No 748/2012, Regulation (EU) No 1321/2014 and Regulation (EU) No 376/2014; Relation between the various Annexes (Parts) of Regulation (EU) No 748/2012, Regulation (EU) No 1321/2014 and Regulation (EU) No 965/2012	1	1	1	1
10.2 Certifying Staff — Maintenance Detailed understanding of Part-66.	2	2	2	2
10.3 Approved Maintenance Organisations Detailed understanding of Part-145 and Part-M Subpart F.	2	2	2	2
10.4 Air operations General understanding of Regulation (EU) No 965/2012. Air Operators Certificates; Operator's responsibilities, in particular regarding continuing airworthiness and maintenance; Aircraft Maintenance Programme; MEL//CDL; Documents to be carried on board; Aircraft placarding (markings).	1	1	1	1
10.5 Certification of aircraft, parts and appliances (a) General General understanding of Part 21 and EASA certification specifications CS-23, 25, 27, 29.	—	1	1	1
(b) Documents Certificate of Airworthiness; restricted certificates of airworthiness and permit to fly; Certificate of Registration; Noise Certificate; Weight Schedule; Radio Station Licence and Approval.	—	2	2	2
10.6 Continuing airworthiness Detailed understanding of Part 21 provisions related to continuing airworthiness. Detailed understanding of Part-M.	2	2	2	2

MODULE 10. AVIATION LEGISLATION	LEVEL			
	A	B1	B2 B2L	B3
10.7 Applicable National and International Requirements for (if not superseded by EU requirements).				
(a) Maintenance Programmes, Maintenance checks and inspections; Airworthiness Directives; Service Bulletins, manufacturers service information; Modifications and repairs; Maintenance documentation: maintenance manuals, structural repair manual, illustrated parts catalogue, etc.; Only for A to B2 licences: Master Minimum Equipment Lists, Minimum Equipment List, Dispatch Deviation Lists;	1	2	2	2
(b) Continuing airworthiness; Minimum equipment requirements — Test flights; Only for B1 and B2 licences: ETOPS, maintenance and dispatch requirements; All Weather Operations, Category 2/3 operations.	—	1	1	1

MODULE 11A. TURBINE AEROPLANE AERODYNAMICS, STRUCTURES AND SYSTEMS

Regulation (EU) 2018/1142

MODULE 11A. TURBINE AEROPLANE AERODYNAMICS, STRUCTURES AND SYSTEMS	LEVEL	
	A1	B1.1
11.1 Theory of Flight		
11.1.1. Aeroplane Aerodynamics and Flight Controls Operation and effect of: — roll control: ailerons and spoilers, — pitch control: elevators, stabilators, variable incidence stabilisers and canards, — yaw control, rudder limiters; Control using elevons, ruddervators; High lift devices, slots, slats, flaps, flaperons; Drag inducing devices, spoilers, lift dumpers, speed brakes; Effects of wing fences, saw tooth leading edges; Boundary layer control using, vortex generators, stall wedges or leading edge devices; Operation and effect of trim tabs, balance and antibalance (leading) tabs, servo tabs, spring tabs, mass balance, control surface bias, aerodynamic balance panels.	1	2
11.1.2. High Speed Flight Speed of sound, subsonic flight, transonic flight, supersonic flight; Mach number, critical Mach number, compressibility buffet, shock wave, aerodynamic heating, area rule; Factors affecting airflow in engine intakes of high speed aircraft; Effects of sweepback on critical Mach number.	1	2
11.2 Airframe Structures — General Concepts (a) Airworthiness requirements for structural strength; Structural classification, primary, secondary and tertiary; Fail safe, safe life, damage tolerance concepts; Zonal and station identification systems; Stress, strain, bending, compression, shear, torsion, tension, hoop stress, fatigue; Drains and ventilation provisions; System installation provisions; Lightning strike protection provision; Aircraft bonding.	2	2
(b) Construction methods of: stressed skin fuselage, formers, stringers, longerons, bulkheads, frames, doublers, struts, ties, beams, floor structures, reinforcement, methods of skinning, anti-corrosive protection, wing, empennage and engine attachments; Structure assembly techniques: riveting, bolting, bonding; Methods of surface protection, such as chromating, anodising, painting; Surface cleaning; Airframe symmetry: methods of alignment and symmetry checks.	1	2
11.3 Airframe Structures — Aeroplanes *11.3.1 Fuselage (ATA 52/53/56)* Construction and pressurisation sealing; Wing, stabiliser, pylon and undercarriage attachments; Seat installation and cargo loading system; Doors and emergency exits: construction, mechanisms, operation and safety devices; Windows and windscreen construction and mechanisms.	1	2

MODULE 11A. TURBINE AEROPLANE AERODYNAMICS, STRUCTURES AND SYSTEMS	LEVEL	
	A1	B1.1
11.3.2 Wings (ATA 57) Construction; Fuel storage; Landing gear, pylon, control surface and high lift/drag attachments.	1	2
11.3.3 Stabilisers (ATA 55) Construction; Control surface attachment.	1	2
11.3.4 Flight Control Surfaces (ATA 55/57) Construction and attachment; Balancing — mass and aerodynamic.	1	2
11.3.5 Nacelles/Pylons (ATA 54) Nacelles/Pylons: — Construction, — Firewalls, — Engine mounts.	1	2
11.4 Air Conditioning and Cabin Pressurisation (ATA 21) *11.4.1 Air supply* Sources of air supply including engine bleed, APU and ground cart.	1	2
11.4.2 Air Conditioning Air conditioning systems; Air cycle and vapour cycle machines; Distribution systems; Flow, temperature and humidity control system.	1	3
11.4.3 Pressurisation Pressurisation systems; Control and indication including control and safety valves; Cabin pressure controllers.	1	3
11.4.4 Safety and warning devices Protection and warning devices.	1	3
11.5 Instruments/Avionic Systems *11.5.1 Instrument Systems (ATA 31)* Pitot static: altimeter, air speed indicator, vertical speed indicator; Gyroscopic: artificial horizon, attitude director, direction indicator, horizontal situation indicator, turn and slip indicator, turn coordinator; Compasses: direct reading, remote reading; Angle of attack indication, stall warning systems; Glass cockpit; Other aircraft system indication.	1	2
11.5.2 Avionic Systems Fundamentals of system lay-outs and operation of: — Auto Flight (ATA 22), — Communications (ATA 23), — Navigation Systems (ATA 34).	1	1

MODULE 11A. TURBINE AEROPLANE AERODYNAMICS, STRUCTURES AND SYSTEMS	LEVEL	
	A1	B1.1
Electrical Power (ATA 24) Batteries Installation and Operation; DC power generation; AC power generation; Emergency power generation; Voltage regulation; Power distribution; Inverters, transformers, rectifiers; Circuit protection; External/Ground power.	1	3
Equipment and Furnishings (ATA 25) (a) Emergency equipment requirements; Seats, harnesses and belts.	2	2
(b) Cabin lay-out; Equipment lay-out; Cabin Furnishing installation; Cabin entertainment equipment; Galley installation; Cargo handling and retention equipment; Airstairs.	1	1
Fire Protection (ATA 26) (a) Fire and smoke detection and warning systems; Fire extinguishing systems; System tests;	1	3
(b) Portable fire extinguisher.	1	2
Flight Controls (ATA 27) Primary controls: aileron, elevator, rudder, spoiler; Trim control; Active load control; High lift devices; Lift dump, speed brakes; System operation: manual, hydraulic, pneumatic, electrical, fly-by-wire; Artificial feel, Yaw damper, Mach trim, rudder limiter, gust lock systems; Balancing and rigging; Stall protection/warning system.	1	3
Fuel Systems (ATA 28) System lay-out; Fuel tanks; Supply systems; Dumping, venting and draining; Cross-feed and transfer; Indications and warnings; Refuelling and defuelling; Longitudinal balance fuel systems.	1	3

MODULE 11A. TURBINE AEROPLANE AERODYNAMICS, STRUCTURES AND SYSTEMS	LEVEL	
	A1	B1.1
11.11 Hydraulic Power (ATA 29) System lay-out; Hydraulic fluids; Hydraulic reservoirs and accumulators; Pressure generation: electric, mechanical, pneumatic; Emergency pressure generation; Filters; Pressure Control; Power distribution; Indication and warning systems; Interface with other systems.	1	3
11.12 Ice and Rain Protection (ATA 30) Ice formation, classification and detection; Anti-icing systems: electrical, hot air and chemical; De-icing systems: electrical, hot air, pneumatic and chemical; Rain repellent; Probe and drain heating; Wiper systems.	1	3
11.13 Landing Gear (ATA 32) Construction, shock absorbing; Extension and retraction systems: normal and emergency; Indications and warning; Wheels, brakes, antiskid and autobraking; Tyres; Steering; Air-ground sensing.	2	3
11.14 Lights (ATA 33) External: navigation, anti collision, landing, taxiing, ice; Internal: cabin, cockpit, cargo; Emergency.	2	3
11.15 Oxygen (ATA 35) System lay-out: cockpit, cabin; Sources, storage, charging and distribution; Supply regulation; Indications and warnings.	1	3
11.16 Pneumatic/Vacuum (ATA 36) System lay-out; Sources: engine/APU (Auxiliary Power Unit), compressors, reservoirs, ground supply; Pressure and vacuum pumps; Pressure control; Distribution; Indications and warnings; Interfaces with other systems.	1	3
11.17 Water/Waste (ATA 38) Water system lay-out, supply, distribution, servicing and draining; Toilet system lay-out, flushing and servicing; Corrosion aspects.	2	3

MODULE 11A. TURBINE AEROPLANE AERODYNAMICS, STRUCTURES AND SYSTEMS	LEVEL	
	A1	B1.1
11.18 On Board Maintenance Systems (ATA 45) Central maintenance computers; Data loading system; Electronic library system; Printing; Structure monitoring (damage tolerance monitoring).	1	2
11.19 Integrated Modular Avionics (ATA42) Functions that may be typically integrated in the Integrated Modular Avionic (IMA) modules are, among others: Bleed Management, Air Pressure Control, Air Ventilation and Control, Avionics and Cockpit Ventilation Control, Temperature Control, Air Traffic Communication, Avionics Communication Router, Electrical Load Management, Circuit Breaker Monitoring, Electrical System BITE, Fuel Management, Braking Control, Steering Control, Landing Gear Extension and Retraction, Tyre Pressure Indication, Oleo Pressure Indication, Brake Temperature Monitoring, etc. Core System; Network Components.	1	2
11.20 Cabin Systems (ATA44) The units and components which furnish a means of entertaining the passengers and providing communication within the aircraft (Cabin Intercommunication Data System (CIDS)) and between the aircraft cabin and ground stations (Cabin Network Service (CNS)). They include voice, data, music and video transmissions. CIDS provides an interface between cockpit/cabin crew and cabin systems. These systems support data exchange between the different related Line Replaceable Units (LRUs) and they are typically operated via Flight Attendant Panels (FAPs). CNS typically consists of a server, interfacing with, among others, the following systems: — Data/Radio Communication; — Cabin Core System (CCS); — In-flight Entertainment System (IFES); — External Communication System (ECS); — Cabin Mass Memory System (CMMS); — Cabin Monitoring System (CMS); — Miscellaneous Cabin Systems (MCSs). CNS may host functions such as: — access to pre-departure/departure reports; — e-mail/intranet/internet access; passenger database.	1	2
11.21 Information Systems (ATA46) The units and components which furnish a means of storing, updating and retrieving digital information traditionally provided on paper, microfilm or microfiche. Includes units that are dedicated to the information storage and retrieval function such as the electronic library mass storage and controller. Does not include units or components installed for other uses and shared with other systems, such as flight deck printer or general use display. Typical examples include Air Traffic and Information Management Systems and Network Server Systems Aircraft General Information System; Flight Deck Information System; Maintenance Information System; Passenger Cabin Information System; Miscellaneous Information System.	1	2

MODULE 11B. PISTON AEROPLANE AERODYNAMICS, STRUCTURES AND SYSTEMS

Regulation (EU) 2018/1142

Note 1: This module does not apply to category B3. Relevant subject matters for category B3 are defined in module 11C.

Note 2: The scope of this Module shall reflect the technology of aeroplanes pertinent to the A2 and B1.2 subcategory.

MODULE 11B. PISTON AEROPLANE AERODYNAMICS, STRUCTURES AND SYSTEMS	LEVEL	
	A2	B1.2
11.1 Theory of Flight *11.1.1. Aeroplane Aerodynamics and Flight Controls* Operation and effect of: — roll control: ailerons and spoilers, — pitch control: elevators, stabilators, variable incidence stabilisers and canards, — yaw control, rudder limiters; Control using elevons, ruddervators; High lift devices, slots, slats, flaps, flaperons; Drag inducing devices, spoilers, lift dumpers, speed brakes; Effects of wing fences, saw tooth leading edges; Boundary layer control using, vortex generators, stall wedges or leading edge devices; Operation and effect of trim tabs, balance and antibalance (leading) tabs, servo tabs, spring tabs, mass balance, control surface bias, aerodynamic balance panels.	1	2
11.1.2. High Speed Flight — N/A	—	—
11.2 Airframe Structures — General Concepts (a) Airworthiness requirements for structural strength; Structural classification, primary, secondary and tertiary; Fail safe, safe life, damage tolerance concepts; Zonal and station identification systems; Stress, strain, bending, compression, shear, torsion, tension, hoop stress, fatigue; Drains and ventilation provisions; System installation provisions; Lightning strike protection provision; Aircraft bonding.	2	2
(b) Construction methods of: stressed skin fuselage, formers, stringers, longerons, bulkheads, frames, doublers, struts, ties, beams, floor structures, reinforcement, methods of skinning, anti-corrosive protection, wing, empennage and engine attachments; Structure assembly techniques: riveting, bolting, bonding; Methods of surface protection, such as chromating, anodising, painting; Surface cleaning; Airframe symmetry: methods of alignment and symmetry checks.	1	2
11.3 Airframe Structures — Aeroplanes *11.3.1 Fuselage (ATA 52/53/56)* Construction and pressurisation sealing; Wing, tail-plane, pylon and undercarriage attachments; Seat installation; Doors and emergency exits: construction and operation; Windows and windscreen attachment.	1	2

MODULE 11B. PISTON AEROPLANE AERODYNAMICS, STRUCTURES AND SYSTEMS	LEVEL	
	A2	B1.2
11.3.2 Wings (ATA 57) Construction; Fuel storage; Landing gear, pylon, control surface and high lift/drag attachments.	1	2
11.3.3 Stabilisers (ATA 55) Construction; Control surface attachment.	1	2
11.3.4 Flight Control Surfaces (ATA 55/57) Construction and attachment; Balancing — mass and aerodynamic.	1	2
11.3.5 Nacelles/Pylons (ATA 54) Nacelles/Pylons: — Construction, — Firewalls, — Engine mounts.	1	2
11.4 Air Conditioning and Cabin Pressurisation (ATA 21) Pressurisation and air conditioning systems; Cabin pressure controllers, protection and warning devices; Heating systems.	1	3
11.5 Instruments/Avionic Systems *11.5.1 Instrument Systems (ATA 31)* Pitot static: altimeter, air speed indicator, vertical speed indicator; Gyroscopic: artificial horizon, attitude director, direction indicator, horizontal situation indicator, turn and slip indicator, turn coordinator; Compasses: direct reading, remote reading; Angle of attack indication, stall warning systems; Glass cockpit; Other aircraft system indication.	1	2
11.5.2 Avionic Systems Fundamentals of system lay-outs and operation of: — Auto Flight (ATA 22), — Communications (ATA 23), — Navigation Systems (ATA 34).	1	1
11.6 Electrical Power (ATA 24) Batteries Installation and Operation; DC power generation; Voltage regulation; Power distribution; Circuit protection; Inverters, transformers.	1	3
11.7 Equipment and Furnishings (ATA 25) (a) Emergency equipment requirements; Seats, harnesses and belts;	2	2
(b) Cabin lay-out; Equipment lay-out; Cabin Furnishing installation; Cabin entertainment equipment; Galley installation; Cargo handling and retention equipment;	1	1

MODULE 11B. PISTON AEROPLANE AERODYNAMICS, STRUCTURES AND SYSTEMS	LEVEL	
	A2	B1.2
Airstairs.		
11.8 Fire Protection (ATA 26) (a) Fire and smoke detection and warning systems; Fire extinguishing systems; System tests;	1	3
(b) Portable fire extinguisher.	1	2
11.9 Flight Controls (ATA 27) Primary controls: aileron, elevator, rudder; Trim tabs; High lift devices; System operation: manual; Gust locks; Balancing and rigging; Stall warning system.	1	3
11.10 Fuel Systems (ATA 28) System lay-out; Fuel tanks; Supply systems; Cross-feed and transfer; Indications and warnings; Refuelling and defuelling.	1	3
11.11 Hydraulic Power (ATA 29) System lay-out; Hydraulic fluids; Hydraulic reservoirs and accumulators; Pressure generation: electric, mechanical; Filters; Pressure Control; Power distribution; Indication and warning systems.	1	3
11.12 Ice and Rain Protection (ATA 30) Ice formation, classification and detection; De-icing systems: electrical, hot air, pneumatic and chemical; Probe and drain heating; Wiper systems.	1	3
11.13 Landing Gear (ATA 32) Construction, shock absorbing; Extension and retraction systems: normal and emergency; Indications and warning; Wheels, brakes, antiskid and autobraking; Tyres; Steering; Air-ground sensing.	2	3
11.14 Lights (ATA 33) External: navigation, anti collision, landing, taxiing, ice; Internal: cabin, cockpit, cargo; Emergency.	2	3

MODULE 11B. PISTON AEROPLANE AERODYNAMICS, STRUCTURES AND SYSTEMS	LEVEL	
	A2	B1.2
11.15 Oxygen (ATA 35) System lay-out: cockpit, cabin; Sources, storage, charging and distribution; Supply regulation; Indications and warnings.	1	3
11.16 Pneumatic/Vacuum (ATA 36) System lay-out; Sources: engine/APU, compressors, reservoirs, ground supply; Pressure and vacuum pumps; Pressure control; Distribution; Indications and warnings; Interfaces with other systems.	1	3
11.17 Water/Waste (ATA 38) Water system lay-out, supply, distribution, servicing and draining; Toilet system lay-out, flushing and servicing; Corrosion aspects.	2	3

MODULE 11C. PISTON AEROPLANE AERODYNAMICS, STRUCTURES AND SYSTEMS

Regulation (EU) No 1321/2014

Note: The scope of this module shall reflect the technology of aeroplanes pertinent to the B3 category.

MODULE 11C. PISTON AEROPLANE AERODYNAMICS, STRUCTURES AND SYSTEMS	LEVEL B3
11.1 Theory of Flight Aeroplane Aerodynamics and Flight Controls Operation and effect of: — roll control: ailerons, — pitch control: elevators, stabilators, variable incidence stabilisers and canards, — yaw control, rudder limiters; Control using elevons, ruddervators; High lift devices, slots, slats, flaps, flaperons; Drag inducing devices, lift dumpers, speed brakes; Effects of wing fences, saw tooth leading edges; Boundary layer control using, vortex generators, stall wedges or leading edge devices; Operation and effect of trim tabs, balance and anti-balance (leading) tabs, servo tabs, spring tabs, mass balance, control surface bias, aerodynamic balance panels.	1
11.2 Airframe Structures — General Concepts (a) Airworthiness requirements for structural strength; Structural classification, primary, secondary and tertiary; Fail safe, safe life, damage tolerance concepts; Zonal and station identification systems; Stress, strain, bending, compression, shear, torsion, tension, hoop stress, fatigue; Drains and ventilation provisions; System installation provisions; Lightning strike protection provision; Aircraft bonding;	2
(b) Construction methods of: stressed skin fuselage, formers, stringers, longerons, bulkheads, frames, doublers, struts, ties, beams, floor structures, reinforcement, methods of skinning, anti-corrosive protection, wing, empennage and engine attachments; Structure assembly techniques: riveting, bolting, bonding; Methods of surface protection, such as chromating, anodising, painting; Surface cleaning; Airframe symmetry: methods of alignment and symmetry checks.	2
11.3 Airframe Structures — Aeroplanes *11.3.1 Fuselage (ATA 52/53/56)* Construction; Wing, tail-plane, pylon and undercarriage attachments; Seat installation; Doors and emergency exits: construction and operation; Window and windscreen attachment.	1
11.3.2 Wings (ATA 57) Construction; Fuel storage; Landing gear, pylon, control surface and high lift/drag attachments.	1
11.3.3 Stabilisers (ATA 55) Construction; Control surface attachment.	1
11.3.4 Flight Control Surfaces (ATA 55/57) Construction and attachment;	1

MODULE 11C. PISTON AEROPLANE AERODYNAMICS, STRUCTURES AND SYSTEMS	LEVEL B3
Balancing — mass and aerodynamic.	
11.3.5 Nacelles/Pylons (ATA 54) Nacelles/Pylons: — Construction, — Firewalls, — Engine mounts.	1
11.4 Air Conditioning (ATA 21) Heating and ventilation systems.	1
11.5 Instruments/Avionic Systems *11.5.1 Instrument Systems (ATA 31)* Pitot static: altimeter, air speed indicator, vertical speed indicator; Gyroscopic: artificial horizon, attitude director, direction indicator, horizontal situation indicator, turn and slip indicator, turn coordinator; Compasses: direct reading, remote reading; Angle of attack indication, stall warning systems; Glass cockpit; Other aircraft system indication.	1
11.5.2 Avionic Systems Fundamentals of system lay-outs and operation of: — Auto Flight (ATA 22), — Communications (ATA 23), — Navigation Systems (ATA 34).	1
11.6 Electrical Power (ATA 24) Batteries Installation and Operation; DC power generation; Voltage regulation; Power distribution; Circuit protection; Inverters, transformers.	2
11.7 Equipment and Furnishings (ATA 25) Emergency equipment requirements; Seats, harnesses and belts.	2
11.8 Fire Protection (ATA 26) Portable fire extinguisher.	2
11.9 Flight Controls (ATA 27) Primary controls: aileron, elevator, rudder; Trim tabs; High lift devices; System operation: manual; Gust locks; Balancing and rigging; Stall warning system.	3
11.10 Fuel Systems (ATA 28) System lay-out; Fuel tanks; Supply systems; Cross-feed and transfer; Indications and warnings; Refuelling and defuelling.	2

MODULE 11C. PISTON AEROPLANE AERODYNAMICS, STRUCTURES AND SYSTEMS	LEVEL B3
11.11 Hydraulic Power (ATA 29) System lay-out; Hydraulic fluids; Hydraulic reservoirs and accumulators; Pressure generation: electric, mechanical; Filters; Pressure Control; Power distribution; Indication and warning systems.	2
11.12 Ice and Rain Protection (ATA 30) Ice formation, classification and detection; De-icing systems: electrical, hot air, pneumatic and chemical; Probe and drain heating; Wiper systems.	1
11.13 Landing Gear (ATA 32) Construction, shock absorbing; Extension and retraction systems: normal and emergency; Indications and warning; Wheels, brakes, antiskid and autobraking; Tyres; Steering.	2
11.14 Lights (ATA 33) External: navigation, anti collision, landing, taxiing, ice; Internal: cabin, cockpit, cargo; Emergency.	2
11.15 Oxygen (ATA 35) System lay-out: cockpit, cabin; Sources, storage, charging and distribution; Supply regulation; Indications and warnings.	2
11.16 Pneumatic/Vacuum (ATA 36) System lay-out; Sources: engine/APU, compressors, reservoirs, ground supply; Pressure and vacuum pumps Pressure control; Distribution; Indications and warnings; Interfaces with other systems.	2

MODULE 12. HELICOPTER AERODYNAMICS, STRUCTURES AND SYSTEMS

Regulation (EU) 2018/1142

MODULE 12. HELICOPTER AERODYNAMICS, STRUCTURES AND SYSTEMS	LEVEL	
	A3 A4	**B1.3 B1.4**
12.1 Theory of Flight — Rotary Wing Aerodynamics Terminology; Effects of gyroscopic precession; Torque reaction and directional control; Dissymmetry of lift, Blade tip stall; Translating tendency and its correction; Coriolis effect and compensation; Vortex ring state, power settling, overpitching; Auto-rotation; Ground effect.	1	2
12.2 Flight Control Systems Cyclic control; Collective control; Swashplate; Yaw control: Anti-Torque Control, Tail rotor, bleed air; Main Rotor Head: Design and Operation features; Blade Dampers: Function and construction; Rotor Blades: Main and tail rotor blade construction and attachment; Trim control, fixed and adjustable stabilisers; System operation: manual, hydraulic, electrical and fly-by-wire; Artificial feel; Balancing and rigging.	2	3
12.3 Blade Tracking and Vibration Analysis Rotor alignment; Main and tail rotor tracking; Static and dynamic balancing; Vibration types, vibration reduction methods; Ground resonance.	1	3
12.4 Transmission Gear boxes, main and tail rotors; Clutches, free wheel units and rotor brake; Tail rotor drive shafts, flexible couplings, bearings, vibration dampers and bearing hangers.	1	3
12.5 Airframe Structures (a) Airworthiness requirements for structural strength; Structural classification, primary, secondary and tertiary; Fail safe, safe life, damage tolerance concepts; Zonal and station identification systems; Stress, strain, bending, compression, shear, torsion, tension, hoop stress, fatigue; Drains and ventilation provisions; System installation provisions; Lightning strike protection provision;	2	2
(b) Construction methods of: stressed skin fuselage, formers, stringers, longerons, bulkheads, frames, doublers, struts, ties, beams, floor structures, reinforcement, methods of skinning and anti-corrosive protection.	1	2

MODULE 12. HELICOPTER AERODYNAMICS, STRUCTURES AND SYSTEMS	LEVEL	
	A3 A4	B1.3 B1.4
Pylon, stabiliser and undercarriage attachments; Seat installation; Doors: construction, mechanisms, operation and safety devices; Windows and windscreen construction; Fuel storage; Firewalls; Engine mounts; Structure assembly techniques: riveting, bolting, bonding; Methods of surface protection, such as chromating, anodising, painting; Surface cleaning. Airframe symmetry: methods of alignment and symmetry checks.		
12.6 Air Conditioning (ATA 21) *12.6.1 Air supply* Sources of air supply including engine bleed and ground cart.	1	2
12.6.2 Air conditioning Air conditioning systems; Distribution systems; Flow and temperature control systems; Protection and warning devices.	1	3
12.7 Instruments/Avionic Systems *12.7.1 Instrument Systems (ATA 31)* Pitot static: altimeter, air speed indicator, vertical speed indicator; Gyroscopic: artificial horizon, attitude director, direction indicator, horizontal situation indicator, turn and slip indicator, turn coordinator; Compasses: direct reading, remote reading; Vibration indicating systems — HUMS; Glass cockpit; Other aircraft system indication.	1	2
12.7.2 Avionic Systems Fundamentals of system layouts and operation of: Auto Flight (ATA 22); Communications (ATA 23); Navigation Systems (ATA 34).	1	1
12.8 Electrical Power (ATA 24) Batteries Installation and Operation; DC power generation, AC power generation; Emergency power generation; Voltage regulation, Circuit protection. Power distribution; Inverters, transformers, rectifiers; External/Ground power.	1	3
12.9 Equipment and Furnishings (ATA 25) (a) Emergency equipment requirements; Seats, harnesses and belts; Lifting systems;	2	2
(b) Emergency flotation systems; Cabin lay-out, cargo retention; Equipment lay-out; Cabin Furnishing Installation.	1	1

MODULE 12. HELICOPTER AERODYNAMICS, STRUCTURES AND SYSTEMS	LEVEL	
	A3 A4	**B1.3 B1.4**
12.10 Fire Protection (ATA 26) Fire and smoke detection and warning systems; Fire extinguishing systems; System tests.	1	3
12.11 Fuel Systems (ATA 28) System lay-out; Fuel tanks; Supply systems; Dumping, venting and draining; Cross-feed and transfer; Indications and warnings; Refuelling and defuelling.	1	3
12.12 Hydraulic Power (ATA 29) System lay-out; Hydraulic fluids; Hydraulic reservoirs and accumulators; Pressure generation: electric, mechanical, pneumatic; Emergency pressure generation; Filters; Pressure Control; Power distribution; Indication and warning systems; Interface with other systems.	1	3
12.13 Ice and Rain Protection (ATA 30) Ice formation, classification and detection; Anti-icing and De-icing systems: electrical, hot air and chemical; Rain repellent and removal; Probe and drain heating; Wiper system.	1	3
12.14 Landing Gear (ATA 32) Construction, shock absorbing; Extension and retraction systems: normal and emergency; Indications and warning; Wheels, Tyres, brakes; Steering; Air-ground sensing; Skids, floats.	2	3
12.15 Lights (ATA 33) External: navigation, landing, taxiing, ice; Internal: cabin, cockpit, cargo; Emergency.	2	3
12.16 Pneumatic/Vacuum (ATA 36) System lay-out; Sources: engine/APU, compressors, reservoirs, ground supply; Pressure and vacuum pumps; Pressure control; Distribution; Indications and warnings; Interfaces with other systems.	1	3

MODULE 12. HELICOPTER AERODYNAMICS, STRUCTURES AND SYSTEMS	LEVEL	
	A3 A4	**B1.3 B1.4**
12.17 Integrated Modular Avionics (ATA42) Functions that may be typically integrated in the Integrated Modular Avionic (IMA) modules are, among others: Bleed Management, Air Pressure Control, Air Ventilation and Control, Avionics and Cockpit Ventilation Control, Temperature Control, Air Traffic Communication, Avionics Communication Router, Electrical Load Management, Circuit Breaker Monitoring, Electrical System BITE, Fuel Management, Braking Control, Steering Control, Landing Gear Extension and Retraction, Tyre Pressure Indication, Oleo Pressure Indication, Brake Temperature Monitoring, etc. Core System; Network Components.	1	2
12.18 On Board Maintenance Systems (ATA45) Central maintenance computers; Data loading system; Electronic library system; Printing; Structure monitoring (damage tolerance monitoring).	1	2
12.19 Information Systems (ATA46) The units and components which furnish a means of storing, updating and retrieving digital information traditionally provided on paper, microfilm or microfiche. Includes units that are dedicated to the information storage and retrieval function such as the electronic library mass storage and controller. Does not include units or components installed for other uses and shared with other systems, such as flight deck printer or general use display. Typical examples include Air Traffic and Information Management Systems and Network Server Systems. Aircraft General Information System; Flight Deck Information System; Maintenance Information System; Passenger Cabin Information System; Miscellaneous Information System.	1	2

MODULE 13. AIRCRAFT AERODYNAMICS, STRUCTURES AND SYSTEMS

Regulation (EU) 2018/1142

MODULE 13. AIRCRAFT AERODYNAMICS, STRUCTURES AND SYSTEMS	LEVEL B2 B2L
13.1 *Theory of Flight* *(a)* *Aeroplane Aerodynamics and Flight Controls* Operation and effect of: — roll control: ailerons and spoilers; — pitch control: elevators, stabilators, variable incidence stabilisers and canards; and — yaw control: rudder limiters; Control using elevons, ruddervators; High lift devices: slots, slats, flaps; Drag inducing devices: spoilers, lift dumpers, speed brakes; and Operation and effect of trim tabs, servo tabs and control surface bias.	1
(b) *High Speed Flight* Speed of sound, subsonic flight, transonic flight, supersonic flight; Mach number, critical Mach number.	1
(c) *Rotary Wing Aerodynamics* Terminology; Operation and effect of cyclic, collective and anti-torque controls.	1
13.2 *Structures — General Concepts*	
Fundamentals of Structural Systems	1
Zonal and Station Identification Systems	2
Electrical bonding	2
Lightning strike protection provision.	2
13.3 *Autoflight (ATA 22)* *(a)* Fundamentals of automatic flight control including working principles and current terminology; Command signal processing; Modes of operation: roll, pitch and yaw channels; Yaw dampers; Stability Augmentation System in helicopters; Automatic trim control; Autopilot navigation aids interface;	3
(b) Autothrottle systems; Automatic landing systems: principles and categories, modes of operation, approach, glideslope, land, go-around, system monitors and failure conditions.	3

MODULE 13. AIRCRAFT AERODYNAMICS, STRUCTURES AND SYSTEMS	LEVEL B2 B2L
13.4 *Communication/Navigation (ATA 23/34)* *(a)* Fundamentals of radio wave propagation, antennas, transmission lines, communication, receiver and transmitter; Working principles of following systems: — Very High Frequency (VHF) communication; — High Frequency (HF) communication; — Audio; — Emergency Locator Transmitters (ELTs); — Cockpit Voice Recorder (CVR); — Very High Frequency Omnidirectional Range (VOR); — Automatic Direction Finding (ADF); — Instrument Landing System (ILS); — Flight Director Systems (FDSs), Distance Measuring Equipment (DME); — Area navigation, RNAV systems; — Flight Management Systems (FMSs); — Global Positioning System (GPS), Global Navigation Satellite Systems (GNSSs); — Data Link.	3
(b) — Air Traffic Control transponder, secondary surveillance radar; — Traffic Alert and Collision Avoidance System (TCAS); — Weather avoidance radar; — Radio altimeter; — Automatic Dependent Surveillance — Broadcast (ADS-B).	3
(c) — Microwave Landing System (MLS); — Very Low Frequency and hyperbolic navigation (VLF/Omega); — Doppler navigation; — Inertial Navigation System (INS); — ARINC (Aircraft Radio Incorporated) communication and reporting.	3
13.5 *Electrical Power (ATA 24)* Batteries installation and operation; Direct Current (DC) power generation; Alternating Current (AC) power generation; Emergency power generation; Voltage regulation; Power distribution; Inverters, transformers, rectifiers; Circuit protection; External/Ground power.	3
13.6 *Equipment and Furnishings (ATA 25)* Electronic emergency equipment requirements; Cabin entertainment equipment.	3
13.7 *Flight Controls (ATA 27)* *(a)* Primary controls: aileron, elevator, rudder, spoiler; Trim control; Active load control; High lift devices; Lift dump, speed brakes;	2

MODULE 13. AIRCRAFT AERODYNAMICS, STRUCTURES AND SYSTEMS	LEVEL B2 B2L
System operation: manual, hydraulic, pneumatic; Artificial feel, Yaw damper, Mach trim, rudder limiter, gust locks; Stall protection systems.	
(b) System operation: electrical, fly-by-wire.	3
13.8 *Instruments (ATA 31)* Classification; Atmosphere; Terminology; Pressure-measuring devices and systems; Pitot-static systems; Altimeters; Vertical-speed indicators; Airspeed indicators; Machmeters; Altitude-reporting/alerting systems; Air data computers; Instrument pneumatic systems; Direct-reading pressure and temperature gauges; Temperature-indicating systems; Fuel-quantity-indicating systems; Gyroscopic principles; Artificial horizons; Slip indicators; Directional gyros; Ground Proximity Warning Systems (GPWSs); Compass systems; Flight Data Recording Systems (FDRSs); Electronic Flight Instrument Systems (EFISs); Instrument warning systems including master warning systems and centralised warning panels; Stall warning systems and angle of attack-indicating systems; Vibration measurement and indication; Glass cockpit.	3
13.9 *Lights (ATA 33)* External: navigation, landing, taxiing, ice; Internal: cabin, cockpit, cargo; Emergency.	3
13.10 *On Board Maintenance Systems (ATA 45)* Central maintenance computers; Data-loading system; Electronic-library system; Printing system; Structure-monitoring (damage tolerance monitoring).	3
13.11 *Air Conditioning and Cabin Pressurisation (ATA 21)*	
13.11.1. *Air supply* Sources of air supply including engine bleed, APU and ground cart;	2
13.11.2. *Air Conditioning*	
Air-conditioning systems;	2
Air cycle and vapour cycle machines;	3

MODULE 13. AIRCRAFT AERODYNAMICS, STRUCTURES AND SYSTEMS	LEVEL B2 B2L
Distribution systems;	1
Flow, temperature and humidity control system.	3
13.11.3. *Pressurisation* Pressurisation systems; Control and indication including control and safety valves; Cabin pressure controllers.	3
13.11.4. *Safety and warning devices* Protection and warning devices.	3
13.12 *Fire Protection (ATA 26)* *(a)* Fire and smoke detection and warning systems; Fire-extinguishing systems; System tests;	3
(b) Portable fire extinguisher.	1
13.13 *Fuel Systems (ATA 28)* System layout;	1
Fuel tanks;	1
Supply systems;	1
Dumping, venting and draining;	1
Cross feed and transfer;	2
Indications and warnings;	3
Refuelling and defuelling;	2
Longitudinal-balance fuel systems.	3
13.14 Hydraulic Power (ATA 29) System layout;	1
Hydraulic fluids;	1
Hydraulic reservoirs and accumulators;	1
Pressure generation: electrical, mechanical, pneumatic;	3
Emergency pressure generation;	3
Filters;	1
Pressure control;	3
Power distribution;	1
Indication and warning systems;	3
Interface with other systems.	3
13.15 Ice and Rain Protection (ATA 30) Ice formation, classification and detection;	2
Anti-icing systems: electrical, hot-air and chemical;	2
De-icing systems: electrical, hot-air, pneumatic, chemical;	3
Rain-repellent;	1
Probe and drain-heating;	3
Wiper systems.	1
13.16 *Landing Gear (ATA 32)* Construction, shock absorbing;	1
Extension and retraction systems: normal and emergency;	3

MODULE 13. AIRCRAFT AERODYNAMICS, STRUCTURES AND SYSTEMS	LEVEL B2 B2L
Indications and warnings;	3
Wheels, brakes, antiskid and automatic braking systems;	3
Tyres;	1
Steering;	3
Air-ground sensing.	3
13.17 *Oxygen (ATA 35)* System layout: cockpit, cabin;	3
Sources, storage, charging and distribution;	3
Supply regulation;	3
Indications and warnings.	3
13.18 *Pneumatic/Vacuum (ATA 36)* System layout;	2
Sources: engine/APU, compressors, reservoirs, ground supply;	2
Pressure control;	3
Distribution;	1
Indications and warnings;	3
Interfaces with other systems.	3
13.19 *Water/Waste (ATA 38)* Water system layout, supply, distribution, servicing and draining; Toilet system layout, flushing and servicing.	2
13.20 *Integrated Modular Avionics (ATA 42)* Core system; Network components. *Note: Functions that may be typically integrated into the IMA modules are among others:* *— bleed management;* *— air pressure control;* *— air ventilation and control;* *— avionics and cockpit ventilation control, temperature control;* *— air traffic communication;* *— avionics communication router;* *— electrical load management;* *— circuit breaker monitoring;* *— electrical system Built-In Test Equipment (BITE);* *— fuel management;* *— braking control;* *— steering control;* *— landing gear extension and retraction;* *— tyre pressure indication;* *— oleo pressure indication;* *— brake temperature monitoring.*	3
13.21 *Cabin Systems (ATA 44)* The units and components which furnish a means of entertaining the passengers and providing communication within the aircraft (Cabin Intercommunication Data System (CIDS)) and between the aircraft cabin and ground stations (Cabin Network Service (CNS)). They include voice, data, music and video transmissions. CIDS provides an interface between cockpit/cabin crew and cabin systems. These systems support data exchange between the different related Line Replaceable Units (LRUs) and they are typically operated via Flight Attendant Panels (FAPs).	3

MODULE 13. AIRCRAFT AERODYNAMICS, STRUCTURES AND SYSTEMS	LEVEL B2 B2L
CNS typically consists of a server, interfacing with, among others, the following systems: — Data/Radio Communication; — Cabin Core System (CCS); — In-flight Entertainment System (IFES); — External Communication System (ECS); — Cabin Mass Memory System (CMMS); — Cabin Monitoring System (CMS); — Miscellaneous Cabin Systems (MCSs). CNS may host functions such as: — access to pre-departure/departure reports; — e-mail/intranet/internet access; — passenger database.	
13.22 *Information Systems (ATA 46)* The units and components which furnish a means of storing, updating and retrieving digital information traditionally provided on paper, microfilm or microfiche. They include units that are dedicated to the information storage and retrieval function such as the electronic library mass storage and controller, but they do not include units or components installed for other uses and shared with other systems, such as flight deck printer or general-use display. Typical examples include: — Air Traffic and Information Management systems and Network Server systems. — Aircraft general information system; — Flight deck information system; — Maintenance information system; — Passenger cabin information system; — Miscellaneous information systems.	3

MODULE 14. PROPULSION

Regulation (EU) 2018/1142

MODULE 14. PROPULSION	LEVEL B2 B2L
14.1 Turbine Engines (a) Constructional arrangement and operation of turbojet, turbofan, turboshaft and turbopropeller engines;	1
(b) Electronic Engine control and fuel metering systems (FADEC).	2
14.2 Engine Indicating Systems Exhaust gas temperature/Interstage turbine temperature systems; Engine speed; Engine Thrust Indication: Engine Pressure Ratio, engine turbine discharge pressure or jet pipe pressure systems; Oil pressure and temperature; Fuel pressure, temperature and flow; Manifold pressure; Engine torque; Propeller speed.	2
14.3 Starting and Ignition Systems Operation of engine start systems and components; Ignition systems and components; Maintenance safety requirements.	2

MODULE 15. GAS TURBINE ENGINE

Regulation (EU) No 1321/2014

MODULE 15. GAS TURBINE ENGINE	LEVEL	
	A	B1
15.1 Fundamentals Potential energy, kinetic energy, Newton's laws of motion, Brayton cycle; The relationship between force, work, power, energy, velocity, acceleration; Constructional arrangement and operation of turbojet, turbofan, turboshaft, turboprop.	1	2
15.2 Engine Performance Gross thrust, net thrust, choked nozzle thrust, thrust distribution, resultant thrust, thrust horsepower, equivalent shaft horsepower, specific fuel consumption; Engine efficiencies; By-pass ratio and engine pressure ratio; Pressure, temperature and velocity of the gas flow; Engine ratings, static thrust, influence of speed, altitude and hot climate, flat rating, limitations.	—	2
15.3 Inlet Compressor inlet ducts Effects of various inlet configurations; Ice protection.	2	2
15.4 Compressors Axial and centrifugal types; Constructional features and operating principles and applications; Fan balancing; Operation: Causes and effects of compressor stall and surge; Methods of air flow control: bleed valves, variable inlet guide vanes, variable stator vanes, rotating stator blades; Compressor ratio.	1	2
15.5 Combustion Section Constructional features and principles of operation.	1	2
15.6 Turbine Section Operation and characteristics of different turbine blade types; Blade to disk attachment; Nozzle guide vanes; Causes and effects of turbine blade stress and creep.	2	2
15.7 Exhaust Constructional features and principles of operation; Convergent, divergent and variable area nozzles; Engine noise reduction; Thrust reversers.	1	2
15.8 Bearings and Seals Constructional features and principles of operation.	—	2
15.9 Lubricants and Fuels Properties and specifications; Fuel additives; Safety precautions.	1	2

MODULE 15. GAS TURBINE ENGINE	LEVEL	
	A	B1
15.10 Lubrication Systems System operation/lay-out and components.	1	2
15.11 Fuel Systems Operation of engine control and fuel metering systems including electronic engine control (FADEC); Systems lay-out and components.	1	2
15.12 Air Systems Operation of engine air distribution and anti-ice control systems, including internal cooling, sealing and external air services.	1	2
15.13 Starting and Ignition Systems Operation of engine start systems and components; Ignition systems and components; Maintenance safety requirements.	1	2
15.14 Engine Indication Systems Exhaust Gas Temperature/Interstage Turbine Temperature; Engine Thrust Indication: Engine Pressure Ratio, engine turbine discharge pressure or jet pipe pressure systems; Oil pressure and temperature; Fuel pressure and flow; Engine speed; Vibration measurement and indication; Torque; Power.	1	2
15.15 Power Augmentation Systems Operation and applications; Water injection, water methanol; Afterburner systems.	—	1
15.16 Turbo-prop Engines Gas coupled/free turbine and gear coupled turbines; Reduction gears; Integrated engine and propeller controls; Overspeed safety devices.	1	2
15.17 Turbo-shaft Engines Arrangements, drive systems, reduction gearing, couplings, control systems.	1	2
15.18 Auxiliary Power Units (APUs) Purpose, operation, protective systems.	1	2
15.19 Powerplant Installation Configuration of firewalls, cowlings, acoustic panels, engine mounts, anti-vibration mounts, hoses, pipes, feeders, connectors, wiring looms, control cables and rods, lifting points and drains.	1	2
15.20 Fire Protection Systems Operation of detection and extinguishing systems.	1	2

MODULE 15. GAS TURBINE ENGINE	LEVEL	
	A	B1
15.21 Engine Monitoring and Ground Operation Procedures for starting and ground run-up; Interpretation of engine power output and parameters; Trend (including oil analysis, vibration and boroscope) monitoring; Inspection of engine and components to criteria, tolerances and data specified by engine manufacturer; Compressor washing/cleaning; Foreign Object Damage.	1	3
15.22 Engine Storage and Preservation Preservation and depreservation for the engine and accessories/systems.	—	2

MODULE 16. PISTON ENGINE

Regulation (EU) No 1321/2014

MODULE 16. PISTON ENGINE	LEVEL		
	A	B1	B3
16.1 Fundamentals Mechanical, thermal and volumetric efficiencies; Operating principles — 2 stroke, 4 stroke, Otto and Diesel; Piston displacement and compression ratio; Engine configuration and firing order.	1	2	2
16.2 Engine Performance Power calculation and measurement; Factors affecting engine power; Mixtures/leaning, pre-ignition.	1	2	2
16.3 Engine Construction Crank case, crank shaft, cam shafts, sumps; Accessory gearbox; Cylinder and piston assemblies; Connecting rods, inlet and exhaust manifolds; Valve mechanisms; Propeller reduction gearboxes.	1	2	2
16.4 Engine Fuel Systems *16.4.1 Carburettors* Types, construction and principles of operation; Icing and heating.	1	2	2
16.4.2 Fuel injection systems Types, construction and principles of operation.	1	2	2
16.4.3 Electronic engine control Operation of engine control and fuel metering systems including electronic engine control (FADEC); Systems lay-out and components.	1	2	2
16.5 Starting and Ignition Systems Starting systems, pre-heat systems; Magneto types, construction and principles of operation; Ignition harnesses, spark plugs; Low and high tension systems.	1	2	2
16.6 Induction, Exhaust and Cooling Systems Construction and operation of: induction systems including alternate air systems; Exhaust systems, engine cooling systems — air and liquid.	1	2	2
16.7 Supercharging/Turbocharging Principles and purpose of supercharging and its effects on engine parameters; Construction and operation of supercharging/turbocharging systems; System terminology; Control systems; System protection.	1	2	2
16.8 Lubricants and Fuels Properties and specifications; Fuel additives; Safety precautions.	1	2	2

MODULE 16. PISTON ENGINE	LEVEL		
	A	B1	B3
16.9 Lubrication Systems System operation/lay-out and components.	1	2	2
16.10 Engine Indication Systems Engine speed; Cylinder head temperature; Coolant temperature; Oil pressure and temperature; Exhaust Gas Temperature; Fuel pressure and flow; Manifold pressure.	1	2	2
16.11 Powerplant Installation Configuration of firewalls, cowlings, acoustic panels, engine mounts, anti-vibration mounts, hoses, pipes, feeders, connectors, wiring looms, control cables and rods, lifting points and drains.	1	2	2
16.12 Engine Monitoring and Ground Operation Procedures for starting and ground run-up; Interpretation of engine power output and parameters; Inspection of engine and components: criteria, tolerances, and data specified by engine manufacturer.	1	3	2
16.13 Engine Storage and Preservation Preservation and depreservation for the engine and accessories/systems.	—	2	1

MODULE 17A. PROPELLER

Regulation (EU) No 1321/2014

Note: This module does not apply to category B3. Relevant subject matters for category B3 are defined in module 17B.

MODULE 17A. PROPELLER	LEVEL	
	A	B1
17.1 Fundamentals Blade element theory; High/low blade angle, reverse angle, angle of attack, rotational speed; Propeller slip; Aerodynamic, centrifugal, and thrust forces; Torque; Relative airflow on blade angle of attack; Vibration and resonance.	1	2
17.2 Propeller Construction Construction methods and materials used in wooden, composite and metal propellers; Blade station, blade face, blade shank, blade back and hub assembly; Fixed pitch, controllable pitch, constant speeding propeller; Propeller/spinner installation.	1	2
17.3 Propeller Pitch Control Speed control and pitch change methods, mechanical and electrical/electronic; Feathering and reverse pitch; Overspeed protection.	1	2
17.4 Propeller Synchronising Synchronising and synchrophasing equipment.	—	2
17.5 Propeller Ice Protection Fluid and electrical de-icing equipment.	1	2
17.6 Propeller Maintenance Static and dynamic balancing; Blade tracking; Assessment of blade damage, erosion, corrosion, impact damage, delamination; Propeller treatment/repair schemes; Propeller engine running.	1	3
17.7 Propeller Storage and Preservation Propeller preservation and depreservation.	1	2

MODULE 17B. PROPELLER

Regulation (EU) No 1321/2014

Note: The scope of this Module shall reflect the propeller technology of aeroplanes pertinent to the B3 category.

MODULE 17B. PROPELLER	LEVEL
	B3
17.1 Fundamentals Blade element theory; High/low blade angle, reverse angle, angle of attack, rotational speed; Propeller slip; Aerodynamic, centrifugal, and thrust forces; Torque; Relative airflow on blade angle of attack; Vibration and resonance.	2
17.2 Propeller Construction Construction methods and material used in wooden, composite and metal propellers; Blade station, blade face, blade shank, blade back and hub assembly; Fixed pitch, controllable pitch, constant speeding propeller; Propeller/spinner installation.	2
17.3 Propeller Pitch Control Speed control and pitch change methods, mechanical and electrical/electronic; Feathering and reverse pitch; Overspeed protection.	2
17.4 Propeller Synchronising Synchronising and synchrophasing equipment.	2
17.5 Propeller Ice Protection Fluid and electrical de-icing equipment.	2
17.6 Propeller Maintenance Static and dynamic balancing; Blade tracking; Assessment of blade damage, erosion, corrosion, impact damage, delamination; Propeller treatment/repair schemes; Propeller engine running.	2
17.7 Propeller Storage and Preservation Propeller preservation and depreservation.	2

Appendix II — Basic examination standard (except for category L licence)

1. General

Regulation (EU) No 1321/2014

All basic examinations shall be carried out using the multi-choice question format and essay questions as specified below. The incorrect alternatives shall seem equally plausible to anyone ignorant of the subject. All of the alternatives shall be clearly related to the question and of similar vocabulary, grammatical construction and length. In numerical questions, the incorrect answers shall correspond to procedural errors such as corrections applied in the wrong sense or incorrect unit conversions: they shall not be mere random numbers.

Each multi-choice question shall have three alternative answers of which only one shall be the correct answer and the candidate shall be allowed a time per module which is based upon a nominal average of 75 seconds per question.

Each essay question requires the preparation of a written answer and the candidate shall be allowed 20 minutes to answer each such question.

Suitable essay questions shall be drafted and evaluated using the knowledge syllabus in Appendix I Modules 7A, 7B, 9A, 9B and 10.

Each question will have a model answer drafted for it, which will also include any known alternative answers that may be relevant for other subdivisions.

The model answer will also be broken down into a list of the important points known as Key Points.

The pass mark for each module and sub-module multi-choice part of the examination is 75 %.

The pass mark for each essay question is 75 % in that the candidates answer shall contain 75 % of the required key points addressed by the question and no significant error related to any required key point.

If either the multi-choice part only or the essay part only is failed, then it is only necessary to retake the multi-choice or essay part, as appropriate.

Penalty marking systems shall not be used to determine whether a candidate has passed.

A failed module may not be retaken for at least 90 days following the date of the failed module examination, except in the case of a maintenance training organisation approved in accordance with Annex IV (Part-147) which conducts a course of retraining tailored to the failed subjects in the particular module when the failed module may be retaken after 30 days.

The time periods required by point 66.A.25 apply to each individual module examination, with the exception of those module examinations which were passed as part of another category licence, where the licence has already been issued.

The maximum number of consecutive attempts for each module is three. Further sets of three attempts are allowed with a 1 year waiting period between sets.

The applicant shall confirm in writing to the approved maintenance training organisation or the competent authority to which they apply for an examination, the number and dates of attempts during the last year and the organisation or the competent authority where these attempts took place. The maintenance training organisation or the competent authority is responsible for checking the number of attempts within the applicable timeframes.

2. Number of questions per module

Regulation (EU) 2018/1142

MODULE 1 — MATHEMATICS

Category A: 16 multi-choice and 0 essay questions. Time allowed 20 minutes.

Category B1: 32 multi-choice and 0 essay questions. Time allowed 40 minutes.

Category B2 and B2L: 32 multi-choice and 0 essay questions. Time allowed 40 minutes.

Category B3: 28 multi-choice and 0 essay questions. Time allowed 35 minutes.

MODULE 2 — PHYSICS

Category A: 32 multi-choice and 0 essay questions. Time allowed 40 minutes.

Category B1: 52 multi-choice and 0 essay questions. Time allowed 65 minutes.

Category B2 and B2L: 52 multi-choice and 0 essay questions. Time allowed 65 minutes.

Category B3: 28 multi-choice and 0 essay questions. Time allowed 35 minutes.

MODULE 3 — ELECTRICAL FUNDAMENTALS

Category A: 20 multi-choice and 0 essay questions. Time allowed 25 minutes.

Category B1: 52 multi-choice and 0 essay questions. Time allowed 65 minutes.

Category B2 and B2L: 52 multi-choice and 0 essay questions. Time allowed 65 minutes.

Category B3: 24 multi-choice and 0 essay questions. Time allowed 30 minutes.

MODULE 4 — ELECTRONIC FUNDAMENTALS

Category B1: 20 multi-choice and 0 essay questions. Time allowed 25 minutes.

Category B2 and B2L: 40 multi-choice and 0 essay questions. Time allowed 50 minutes.

Category B3: 8 multi-choice and 0 essay questions. Time allowed 10 minutes.

MODULE 5 — DIGITAL TECHNIQUES/ELECTRONIC INSTRUMENT SYSTEMS

Category A: 16 multi-choice and 0 essay questions. Time allowed 20 minutes.

Category B1.1 and B1.3: 40 multi-choice and 0 essay questions. Time allowed 50 minutes.

Category B1.2 and B1.4: 20 multi-choice and 0 essay questions. Time allowed 25 minutes.

Category B2 and B2L: 72 multi-choice and 0 essay questions. Time allowed 90 minutes.

Category B3: 16 multi-choice and 0 essay questions. Time allowed 20 minutes.

MODULE 6 — MATERIALS AND HARDWARE

Category A: 52 multi-choice and 0 essay questions. Time allowed 65 minutes.

Category B1: 72 multi-choice and 0 essay questions. Time allowed 90 minutes.

Category B2 and B2L: 60 multi-choice and 0 essay questions. Time allowed 75 minutes.

Category B3: 60 multi-choice and 0 essay questions. Time allowed 75 minutes.

MODULE 7A — MAINTENANCE PRACTICES

Category A: 72 multi-choice and 2 essay questions. Time allowed 90 minutes plus 40 minutes.

Category B1: 80 multi-choice and 2 essay questions. Time allowed 100 minutes plus 40 minutes.

Category B2 and B2L: 60 multi-choice and 2 essay questions. Time allowed 75 minutes plus 40 minutes.

MODULE 7B — MAINTENANCE PRACTICES

Category B3: 60 multi-choice and 2 essay questions. Time allowed 75 minutes plus 40 minutes.

MODULE 8 — BASIC AERODYNAMICS

Category A: 20 multi-choice and 0 essay questions. Time allowed 25 minutes.

Category B1: 20 multi-choice and 0 essay questions. Time allowed 25 minutes.

Category B2 and B2L: 20 multi-choice and 0 essay questions. Time allowed 25 minutes.

Category B3: 20 multi-choice and 0 essay questions. Time allowed 25 minutes.

MODULE 9A — HUMAN FACTORS

Category A: 20 multi-choice and 1 essay question. Time allowed 25 minutes plus 20 minutes.

Category B1: 20 multi-choice and 1 essay question. Time allowed 25 minutes plus 20 minutes.

Category B2 and B2L: 20 multi-choice and 1 essay question. Time allowed 25 minutes plus 20 minutes.

MODULE 9B — HUMAN FACTORS

Category B3: 16 multi-choice and 1 essay questions. Time allowed 20 minutes plus 20 minutes.

MODULE 10 — AVIATION LEGISLATION

Category A: 32 multi-choice and 1 essay question. Time allowed 40 minutes plus 20 minutes.

Category B1: 40 multi-choice and 1 essay question. Time allowed 50 minutes plus 20 minutes.

Category B2 and B2L: 40 multi-choice and 1 essay question. Time allowed 50 minutes plus 20 minutes.

Category B3: 32 multi-choice and 1 essay questions. Time allowed 40 minutes plus 20 minutes.

MODULE 11A — TURBINE AEROPLANE AERODYNAMICS, STRUCTURES AND SYSTEMS

Category A: 108 multi-choice and 0 essay questions. Time allowed 135 minutes.

Category B1: 140 multi-choice and 0 essay questions. Time allowed 175 minutes.

MODULE 11B — PISTON AEROPLANE AERODYNAMICS, STRUCTURES AND SYSTEMS

Category A: 72 multi-choice and 0 essay questions. Time allowed 90 minutes.

Category B1: 100 multi-choice and 0 essay questions. Time allowed 125 minutes.

MODULE 11C — PISTON AEROPLANE AERODYNAMICS, STRUCTURES AND SYSTEMS

Category B3: 60 multi-choice and 0 essay questions. Time allowed 75 minutes.

MODULE 12 — HELICOPTER AERODYNAMICS, STRUCTURES AND SYSTEMS: Category

A: 100 multi-choice and 0 essay questions. Time allowed 125 minutes. Category

B1: 128 multi-choice and 0 essay questions. Time allowed 160 minutes.

MODULE 13 — AIRCRAFT AERODYNAMICS, STRUCTURES AND SYSTEMS

Category B2: 180 multiple-choice and 0 essay questions. Time allowed: 225 minutes. Questions and time allowed may be split into two examinations, as appropriate.

Category B2L:

System rating	Number of multiple-choice questions	Time allowed (minutes)
Basic requirements (Submodules 13.1, 13.2, 13.5 and 13.9)	28	35
COM/NAV (Submodule 13.4(a))	24	30
INSTRUMENTS (Submodule 13.8)	20	25
AUTOFLIGHT (Submodules 13.3(a) and 13.7)	28	35
SURVEILLANCE (Submodule 13.4(b))	8	10
AIRFRAME SYSTEMS (Submodules 13.11 to 13.18)	32	40

MODULE 14 — PROPULSION

Category B2 and B2L: 24 multiple-choice and 0 essay questions. Time allowed 30 minutes.

NOTE: The B2L examination for module 14 is only applicable to the 'Instruments' and 'Airframe Systems' ratings.

MODULE 15 — GAS TURBINE ENGINE

Category A: 60 multi-choice and 0 essay questions. Time allowed 75 minutes.

Category B1: 92 multi-choice and 0 essay questions. Time allowed 115 minutes.

MODULE 16 — PISTON ENGINE

Category A: 52 multi-choice and 0 essay questions. Time allowed 65 minutes.

Category B1: 72 multi-choice and 0 essay questions. Time allowed 90 minutes.

Category B3: 68 multi-choice and 0 essay questions. Time allowed 85 minutes.

MODULE 17A — PROPELLER

Category A: 20 multi-choice and 0 essay questions. Time allowed 25 minutes.

Category B1: 32 multi-choice and 0 essay questions. Time allowed 40 minutes.

MODULE 17B — PROPELLER

Category B3: 28 multi-choice and 0 essay questions. Time allowed 35 minutes.

Appendix III — Aircraft type training and examination standard — On the job training

1. General

Regulation (EU) 2018/1142

Aircraft type training shall consist of theoretical training and examination, and, except for the category C ratings, practical training and assessment.

(a) Theoretical training and examination shall comply with the following requirements:

(i) Shall be conducted by a maintenance training organisation appropriately approved in accordance with Annex IV (Part-147) or, when conducted by other organisations, as directly approved by the competent authority.

(ii) Shall comply, except as permitted by the differences training provided for in point (c), with the standard set out in point 3.1 of this Appendix and, if available, the relevant elements defined in the mandatory part of the operational suitability data established in accordance with Regulation (EU) No 748/2012.

(iii) In the case of a category C person qualified by holding an academic degree as specified in point 66.A.30(a)(5), the first relevant aircraft type theoretical training shall be at the category B1 or B2 level.

(iv) Shall have been started and completed within the 3 years preceding the application for a type rating endorsement.

(b) Practical training and assessment shall comply with the following requirements:

(i) Shall be conducted by a maintenance training organisation appropriately approved in accordance with Annex IV (Part-147) or, when conducted by other organisations, as directly approved by the competent authority.

(ii) Shall comply, except as permitted by the differences training described in point (c), with the standard set out in point 3.2 of this Appendix and, if available, the relevant elements defined in the mandatory part of the operational suitability data established in accordance with Regulation (EU) No 748/2012.

(iii) Shall include a representative cross section of maintenance activities relevant to the aircraft type.

(iv) Shall include demonstrations using equipment, components, simulators, other training devices or aircraft.

(v) Shall have been started and completed within the 3 years preceding the application for a type rating endorsement.

(c) Differences training

(i) Differences training is the training required in order to cover the differences between two different aircraft type ratings of the same manufacturer as determined by the Agency.

(ii) Differences training has to be defined on a case-to-case basis taking into account the requirements contained in this Appendix III in respect of both theoretical and practical elements of type rating training.

(iii) A type rating shall only be endorsed on a licence after differences training when the applicant also complies with one of the following conditions:

— having already endorsed on the licence the aircraft type rating from which the differences are being identified, or

— having completed the type training requirements for the aircraft from which the differences are being identified.

2. Aircraft type training levels

Regulation (EU) No 1321/2014

The three levels listed below define the objectives, the depth of training and the level of knowledge that the training is intended to achieve.

— Level 1: A brief overview of the airframe, systems and powerplant as outlined in the Systems Description Section of the Aircraft Maintenance Manual/Instructions for Continued Airworthiness.

Course objectives: Upon completion of Level 1 training, the student will be able to:

(a) provide a simple description of the whole subject, using common words and examples, using typical terms and identify safety precautions related to the airframe, its systems and powerplant;

(b) identify aircraft manuals, maintenance practices important to the airframe, its systems and powerplant;

(c) define the general layout of the aircraft's major systems;

(d) define the general layout and characteristics of the powerplant;

(e) identify special tooling and test equipment used with the aircraft.

— Level 2: Basic system overview of controls, indicators, principal components, including their location and purpose, servicing and minor troubleshooting. General knowledge of the theoretical and practical aspects of the subject.

Course objectives: In addition to the information contained in the Level 1 training, at the completion of Level 2 training, the student will be able to:

(a) understand the theoretical fundamentals; apply knowledge in a practical manner using detailed procedures;

(b) recall the safety precautions to be observed when working on or near the aircraft, powerplant and systems;

(c) describe systems and aircraft handling particularly access, power availability and sources;

(d) identify the locations of the principal components;

(e) explain the normal functioning of each major system, including terminology and nomenclature;

(f) perform the procedures for servicing associated with the aircraft for the following systems: Fuel, Power Plants, Hydraulics, Landing Gear, Water/Waste, and Oxygen;

(g) demonstrate proficiency in use of crew reports and on-board reporting systems (minor troubleshooting) and determine aircraft airworthiness per the MEL/CDL;

(h) demonstrate the use, interpretation and application of appropriate documentation including instructions for continued airworthiness, maintenance manual, illustrated parts catalogue, etc.

— Level 3: Detailed description, operation, component location, removal/installation and bite and troubleshooting procedures to maintenance manual level.

Course objectives: In addition to the information contained in Level 1 and Level 2 training, at the completion of Level 3 training, the student will be able to:

(a) demonstrate a theoretical knowledge of aircraft systems and structures and interrelationships with other systems, provide a detailed description of the subject using theoretical fundamentals and specific examples and to interpret results from various sources and measurements and apply corrective action where appropriate;

(b) perform system, powerplant, component and functional checks as specified in the aircraft maintenance manual;

(c) demonstrate the use, interpret and apply appropriate documentation including structural repair manual, troubleshooting manual, etc.;

(d) correlate information for the purpose of making decisions in respect of fault diagnosis and rectification to maintenance manual level;

(e) describe procedures for replacement of components unique to aircraft type.

3. Aircraft type training standard

Regulation (EU) No 1321/2014

Although aircraft type training includes both theoretical and practical elements, courses can be approved for the theoretical element, the practical element or for a combination of both.

Theoretical element

Regulation (EU) 2018/1142

(a) Objective:

On completion of a theoretical training course the student shall be able to demonstrate, to the levels identified in the Appendix III syllabus, the detailed theoretical knowledge of the aircraft's applicable systems, structure, operations, maintenance, repair, and troubleshooting according to approved maintenance data. The student shall be able to demonstrate the use of manuals and approved procedures, including the knowledge of relevant inspections and limitations.

(b) Level of training:

Training levels are those levels defined in point 2 above.

After the first type course for category C certifying staff all subsequent courses need only be to level 1.

During a level 3 theoretical training, level 1 and 2 training material may be used to teach the full scope of the chapter if required. However, during the training the majority of the course material and training time shall be at the higher level.

(c) Duration:

The theoretical training minimum tuition hours are contained in the following table:

Category	Hours
Aeroplanes with a maximum take-off mass above 30000 kg:	
B1.1	150
B1.2	120
B2	100
C	30
Aeroplanes with a maximum take-off mass equal or less than 30000 kg and above 5700 kg:	
B1.1	120
B1.2	100
B2	100
C	25
Aeroplanes with a maximum take-off mass of 5700 kg and below[1]	
B1.1	80
B1.2	60
B2	60
C	15
Helicopters[2]	
B1.3	120
B1.4	100
B2	100
C	25

For the purpose of the table above, a tuition hour means 60 minutes of teaching and exclude any breaks, examination, revision, preparation and aircraft visit.

These hours apply only to theoretical courses for complete aircraft/engine combinations according to the type rating as defined by the Agency.

(d) Justification of course duration:

Training courses carried out in a maintenance training organisation approved in accordance with Annex IV (Part-147) and courses directly approved by the competent authority shall justify their hour duration and the coverage of the full syllabus by a training needs analysis based on:

— the design of the aircraft type, its maintenance needs and the types of operation,

— detailed analysis of applicable chapters — see contents table in point 3.1(e) below,

— detailed competency analysis showing that the objectives as stated in point 3.1(a) above are fully met.

Where the training needs analysis shows that more hours are needed, course lengths shall be longer than the minimum specified in the table.

Similarly, tuition hours of differences courses or other training course combinations (such as combined B1/B2 courses), and in cases of theoretical type training courses below the figures given in point 3.1(c) above, these shall be justified to the competent authority by the training needs analysis as described above.

[1] For non-pressurised piston engine aeroplanes below 2 000 kg MTOM, the minimum duration can be reduced by 50 %.

[2] For helicopters in Group 2 (as defined in point 66.A.5), the minimum duration can be reduced by 30 %.

In addition, the course must describe and justify the following:

— The minimum attendance required to the trainee, in order to meet the objectives of the course.

— The maximum number of hours of training per day, taking into account pedagogical and human factors principles.

If the minimum attendance required is not met, the certificate of recognition shall not be issued. Additional training may be provided by the training organisation in order to meet the minimum attendance time.

(e) Content:

As a minimum, the elements in the Syllabus below that are specific to the aircraft type shall be covered. Additional elements introduced due to type variations, technological changes, etc. shall also be included.

The training syllabus shall be focused on mechanical and electrical aspects for B1 personnel, and electrical and avionic aspects for B2.

Level / Chapters	Aeroplanes turbine		Aeroplanes piston		Helicopters turbine		Helicopters piston		Avionics
Licence category	B1	C	B1	C	B1	C	B1	C	B2
Introduction module:									
05 Time limits/maintenance checks	1	1	1	1	1	1	1	1	1
06 Dimensions/Areas (MTOM, etc.)	1	1	1	1	1	1	1	1	1
07 Lifting and Shoring	1	1	1	1	1	1	1	1	1
08 Levelling and weighing	1	1	1	1	1	1	1	1	1
09 Towing and taxiing	1	1	1	1	1	1	1	1	1
10 Parking/mooring, Storing and Return to Service	1	1	1	1	1	1	1	1	1
11 Placards and Markings	1	1	1	1	1	1	1	1	1
12 Servicing	1	1	1	1	1	1	1	1	1
20 Standard practices — only type particular	1	1	1	1	1	1	1	1	1
Helicopters									
18 Vibration and Noise Analysis (Blade tracking)	—	—	—	—	3	1	3	1	—
60 Standard Practices Rotor	—	—	—	—	3	1	3	1	—
62 Rotors	—	—	—	—	3	1	3	1	1
62A Rotors — Monitoring and indicating	—	—	—	—	3	1	3	1	3
63 Rotor Drives	—	—	—	—	3	1	3	1	1
63A Rotor Drives — Monitoring and indicating	—	—	—	—	3	1	3	1	3
64 Tail Rotor	—	—	—	—	3	1	3	1	1
64A Tail rotor — Monitoring and indicating	—	—	—	—	3	1	3	1	3

Level / Chapters	Aeroplanes turbine		Aeroplanes piston		Helicopters turbine		Helicopters piston		Avionics
65 Tail Rotor Drive	—	—	—	—	3	1	3	1	1
65A Tail Rotor Drive — Monitoring and indicating	—	—	—	—	3	1	3	1	3
66 Folding Blades/Pylon	—	—	—	—	3	1	3	1	—
67 Rotors Flight Control	—	—	—	—	3	1	3	1	—
53 Airframe Structure (Helicopter)	—	—	—	—	3	1	3	1	—
25 Emergency Flotation Equipment	—	—	—	—	3	1	3	1	1
Airframe structures									
51 Standard practices and structures (damage classification, assessment and repair)	3	1	3	1	—	—	—	—	1
53 Fuselage	3	1	3	1	—	—	—	—	1
54 Nacelles/Pylons	3	1	3	1	—	—	—	—	1
55 Stabilisers	3	1	3	1	—	—	—	—	1
56 Windows	3	1	3	1	—	—	—	—	1
57 Wings	3	1	3	1	—	—	—	—	1
27A Flight Control Surfaces (All)	3	1	3	1	—	—	—	—	1
52 Doors	3	1	3	1	—	—	—	—	1
Zonal and Station Identification Systems.	1	1	1	1	1	1	1	1	1
Airframe systems:									
21 Air Conditioning	3	1	3	1	3	1	3	1	3
21A Air Supply	3	1	3	1	3	1	3	1	2
21B Pressurisation	3	1	3	1	3	1	3	1	3
21C Safety and Warning Devices	3	1	3	1	3	1	3	1	3
22 Autoflight	2	1	2	1	2	1	2	1	3
23 Communications	2	1	2	1	2	1	2	1	3
24 Electrical Power	3	1	3	1	3	1	3	1	3
25 Equipment and Furnishings	3	1	3	1	3	1	3	1	1
25A Electronic Equipment including emergency equipment	1	1	1	1	1	1	1	1	3
26 Fire Protection	3	1	3	1	3	1	3	1	3
27 Flight Controls	3	1	3	1	3	1	3	1	2
27A Sys. Operation: Electrical/Fly-by-Wire	3	1	—	—	—	—	—	—	3
28 Fuel Systems	3	1	3	1	3	1	3	1	2
28A Fuel Systems — Monitoring and indicating	3	1	3	1	3	1	3	1	3
29 Hydraulic Power	3	1	3	1	3	1	3	1	2

Level / Chapters	Aeroplanes turbine		Aeroplanes piston		Helicopters turbine		Helicopters piston		Avionics
29A Hydraulic Power — Monitoring and indicating	3	1	3	1	3	1	3	1	3
30 Ice and Rain Protection	3	1	3	1	3	1	3	1	3
31 Indicating/Recording Systems	3	1	3	1	3	1	3	1	3
31A Instrument Systems	3	1	3	1	3	1	3	1	3
32 Landing Gear	3	1	3	1	3	1	3	1	2
32A Landing Gear — Monitoring and indicating	3	1	3	1	3	1	3	1	3
33 Lights	3	1	3	1	3	1	3	1	3
34 Navigation	2	1	2	1	2	1	2	1	3
35 Oxygen	3	1	3	1	—	—	—	—	2
36 Pneumatic	3	1	3	1	3	1	3	1	2
36A Pneumatic — Monitoring and indicating	3	1	3	1	3	1	3	1	3
37 Vacuum	3	1	3	1	3	1	3	1	2
38 Water/Waste	3	1	3	1	—	—	—	—	2
41 Water Ballast	3	1	3	1	—	—	—	—	1
42 Integrated modular avionics	2	1	2	1	2	1	2	1	3
44 Cabin Systems	2	1	2	1	2	1	2	1	3
45 On-Board Maintenance System (or covered in 31)	3	1	3	1	3	1	—	—	3
46 Information Systems	2	1	2	1	2	1	2	1	3
50 Cargo and Accessory Compartments	3	1	3	1	3	1	3	1	1
Turbine Engine									
70 Standard Practices — Engines,	3	1	—	—	3	1	—	—	1
70A constructional arrangement and operation (Installation Inlet, Compressors, Combustion Section, Turbine Section, Bearings and Seals, Lubrication Systems).	3	1	—	—	3	1	—	—	1
70B Engine Performance	3	1	—	—	3	1	—	—	1
71 Powerplant	3	1	—	—	3	1	—	—	1
72 Engine Turbine/Turbo Prop/Ducted Fan/Unducted fan	3	1	—	—	3	1	—	—	1
73 Engine Fuel and Control	3	1	—	—	3	1	—	—	1
75 Air	3	1	—	—	3	1	—	—	1
76 Engine controls	3	1	—	—	3	1	—	—	1
78 Exhaust	3	1	—	—	3	1	—	—	1
79 Oil	3	1	—	—	3	1	—	—	1

Level / Chapters	Aeroplanes turbine		Aeroplanes piston		Helicopters turbine		Helicopters piston		Avionics
80 Starting	3	1	—	—	3	1	—	—	1
82 Water Injections	3	1	—	—	3	1	—	—	1
83 Accessory Gear Boxes	3	1	—	—	3	1	—	—	1
84 Propulsion Augmentation	3	1	—	—	3	1	—	—	1
73A FADEC	3	1	—	—	3	1	—	—	3
74 Ignition	3	1	—	—	3	1	—	—	3
77 Engine Indicating Systems	3	1	—	—	3	1	—	—	3
49 Auxiliary Power Units (APUs)	3	1	—	—	—	—	—	—	2
Piston Engine									
70 Standard Practices — Engines	—	—	3	1	—	—	3	1	1
70A Constructional arrangement and operation (Installation, Carburettors, Fuel injection systems, Induction, Exhaust and Cooling Systems, Supercharging/Turbochargin, Lubrication Systems).	—	—	3	1	—	—	3	1	1
70B Engine Performance	—	—	3	1	—	—	3	1	1
71 Powerplant	—	—	3	1	—	—	3	1	1
73 Engine Fuel and Control	—	—	3	1	—	—	3	1	1
76 Engine Control	—	—	3	1	—	—	3	1	1
79 Oil	—	—	3	1	—	—	3	1	1
80 Starting	—	—	3	1	—	—	3	1	1
81 Turbines	—	—	3	1	—	—	3	1	1
82 Water Injections	—	—	3	1	—	—	3	1	1
83 Accessory Gear Boxes	—	—	3	1	—	—	3	1	1
84 Propulsion Augmentation	—	—	3	1	—	—	3	1	1
73A FADEC	—	—	3	1	—	—	3	1	3
74 Ignition	—	—	3	1	—	—	3	1	3
77 Engine Indication Systems	—	—	3	1	—	—	3	1	3
Propellers									
60A Standard Practices — Propeller	3	1	3	1	—	—	—	—	1
61 Propellers/Propulsion	3	1	3	1	—	—	—	—	1
61A Propeller Construction	3	1	3	1	—	—	—	—	—
61B Propeller Pitch Control	3	1	3	1	—	—	—	—	—
61C Propeller Synchronising	3	1	3	1	—	—	—	—	1
61D Propeller Electronic control	2	1	2	1	—	—	—	—	3
61E Propeller Ice Protection	3	1	3	1	—	—	—	—	—
61F Propeller Maintenance	3	1	3	1	—	—	—	—	1

(f) Multimedia Based Training (MBT) methods may be used to satisfy the theoretical training element either in the classroom or in a virtual controlled environment subject to the acceptance of the competent authority approving the training course.

Practical element

Regulation (EU) No 1321/2014

(a) Objective:

The objective of practical training is to gain the required competence in performing safe maintenance, inspections and routine work according to the maintenance manual and other relevant instructions and tasks as appropriate for the type of aircraft, for example troubleshooting, repairs, adjustments, replacements, rigging and functional checks. It includes the awareness of the use of all technical literature and documentation for the aircraft, the use of specialist/special tooling and test equipment for performing removal and replacement of components and modules unique to type, including any on-wing maintenance activity.

(b) Content:

At least 50 % of the crossed items in the table below, which are relevant to the particular aircraft type, shall be completed as part of the practical training.

Tasks crossed represent subjects that are important for practical training purposes to ensure that the operation, function, installation and safety significance of key maintenance tasks is adequately addressed; particularly where these cannot be fully explained by theoretical training alone. Although the list details the minimum practical training subjects, other items may be added where applicable to the particular aircraft type.

Tasks to be completed shall be representative of the aircraft and systems both in complexity and in the technical input required to complete that task. While relatively simple tasks may be included, other more complex tasks shall also be incorporated and undertaken as appropriate to the aircraft type.

Glossary of the table: LOC: Location; FOT: Functional/Operational Test; SGH: Service and Ground Handling; R/I: Removal/Installation; MEL: Minimum Equipment List; TS: TroubleShooting.

Chapters	B1/B2	B1					B2				
	LOC	FOT	SGH	R/I	MEL	TS	FOT	SGH	R/I	MEL	TS
Introduction module:											
5 Time limits/maintenance checks	X/X	—	—	—	—	—	—	—	—	—	—
6 Dimensions/Areas (MTOM, etc.)	X/X	—	—	—	—	—	—	—	—	—	—
7 Lifting and Shoring	X/X	—	—	—	—	—	—	—	—	—	—
8 Levelling and weighing	X/X	—	X	—	—	—	—	X	—	—	—
9 Towing and taxiing	X/X	—	X	—	—	—	—	X	—	—	—
10 Parking/mooring, Storing and Return to Service	X/X	—	X	—	—	—	—	X	—	—	—
11 Placards and Markings	X/X	—	—	—	—	—	—	—	—	—	—

Chapters	B1/B2	B1					B2				
	LOC	FOT	SGH	R/I	MEL	TS	FOT	SGH	R/I	MEL	TS
12 Servicing	X/X	—	X	—	—	—	—	X	—	—	—
20 Standard practices — only type particular	X/X	—	X	—	—	—	—	X	—	—	—
Helicopters:											
18 Vibration and Noise Analysis (Blade tracking)	X/—	—	—	—	—	X	—	—	—	—	—
60 Standard Practices Rotor — only type specific	X/X	—	X	—	—	—	—	X	—	—	—
62 Rotors	X/—	—	X	X	—	X	—	—	—	—	—
62A Rotors — Monitoring and indicating	X/X	X	X	X	X	X	—	—	X	—	X
63 Rotor Drives	X/—	X	—	—	—	X	—	—	—	—	—
63A Rotor Drives — Monitoring and indicating	X/X	X	—	X	X	X	—	—	X	—	X
64 Tail Rotor	X/—	—	X	—	—	X	—	—	—	—	—
64A Tail rotor - Monitoring and indicating	X/X	X	—	X	X	X	—	—	X	—	X
65 Tail Rotor Drive	X/—	X	—	—	—	X	—	—	—	—	—
65A Tail Rotor Drive — Monitoring and indicating	X/X	X	—	X	X	X	—	—	X	—	X
66 Folding Blades/Pylon	X/—	X	X	—	—	X	—	—	—	—	—
67 Rotors Flight Control	X/—	X	X	—	X	X	—	—	—	—	—
53 Airframe Structure (Helicopter) Note: covered under Airframe structures											
25 Emergency Flotation Equipment	X/X	X	X	X	X	X	X	X	—	—	—
Airframe structures:											
51 Standard Practices and Structures (damage classification, assessment and repair)											
53 Fuselage	X/—	—	—	—	—	X	—	—	—	—	—
54 Nacelles/Pylons	X/—	—	—	—	—	—	—	—	—	—	—

Chapters	B1/B2	B1					B2				
	LOC	FOT	SGH	R/I	MEL	TS	FOT	SGH	R/I	MEL	TS
55 Stabilisers	X/—	—	—	—	—	—	—	—	—	—	—
56 Windows	X/—	—	—	—	—	X	—	—	—	—	—
57 Wings	X/—	—	—	—	—	—	—	—	—	—	—
27A Flight Control Surfaces	X/—	—	—	—	—	X	—	—	—	—	—
52 Doors	X/X	X	X	—	—	—	—	X	—	—	—
Airframe systems:											
21 Air Conditioning	X/X	X	X	—	X	X	X	X	—	X	X
21A Air Supply	X/X	X	—	—	—	—	X	—	—	—	—
21B Pressurisation	X/X	X	—	—	X	X	X	—	—	X	X
21C Safety and warning Devices	X/X	—	X	—	—	—	—	X	—	—	—
22 Autoflight	X/X	—	—	—	X	—	X	X	X	X	X
23 Communications	X/X	—	X	—	X	—	X	X	X	X	X
24 Electrical Power	X/X	X	X	X	X	X	X	X	X	X	X
25 Equipment and Furnishings	X/X	X	X	X	—	—	X	X	X	—	—
25A Electronic Equipment including emergency equipment	X/X	X	X	X	—	—	X	X	X	—	—
26 Fire Protection	X/X	X	X	X	X	X	X	X	X	X	X
27 Flight Controls	X/X	X	X	X	X	X	X	—	—	—	—
27A Sys. Operation: Electrical/Fly-by-Wire	X/X	X	X	X	X	—	X	—	X	—	X
28 Fuel Systems	X/X	X	X	X	X	X	X	X	—	X	—
28A Fuel Systems — Monitoring and indicating	X/X	X	—	—	—	—	X	—	X	—	X
29 Hydraulic Power	X/X	X	X	X	X	X	X	X	—	X	—
29A Hydraulic Power — Monitoring and indicating	X/X	X	—	X	X	X	X	—	X	X	X
30 Ice and Rain Protection	X/X	X	X	—	X	X	X	X	—	X	X
31 Indicating/Recording Systems	X/X	X	X	X	X	X	X	X	X	X	X
31A Instrument Systems	X/X	X	X	X	X	X	X	X	X	X	X
32 Landing Gear	X/X	X	X	X	X	X	X	X	X	X	—
32A Landing Gear — Monitoring and indicating	X/X	X	—	X	X	X	X	—	X	X	X
33 Lights	X/X	X	X	—	X	—	X	X	X	X	—
34 Navigation	X/X	—	X	—	X	—	X	X	X	X	X

Chapters	B1/B2	B1					B2				
	LOC	FOT	SGH	R/I	MEL	TS	FOT	SGH	R/I	MEL	TS
35 Oxygen	X/—	X	X	X	—	—	X	X	—	—	—
36 Pneumatic	X/—	X	—	X	X	X	X	—	X	X	X
36A Pneumatic — Monitoring and indicating	X/X	X	X	X	X	X	X	X	X	X	X
37 Vacuum	X/—	X	—	X	X	X	—	—	—	—	—
38 Water/Waste	X/—	X	X	—	—	—	X	X	—	—	—
41 Water Ballast	X/—	—	—	—	—	—	—	—	—	—	—
42 Integrated modular avionics	X/X	—	—	—	—	—	X	X	X	X	X
44 Cabin Systems	X/X	—	—	—	—	—	X	X	X	X	X
45 On-Board Maintenance System (or covered in 31)	X/X	X	X	X	X	X	X	X	X	X	X
46 Information Systems	X/X	—	—	—	—	—	X	—	X	X	X
50 Cargo and Accessory Compartments	X/X	—	X	—	—	—	—	—	—	—	—
Turbine/Piston Engine Module:											
70 Standard Practices — Engines — only type particular	—	—	X	—	—	—	—	X	—	—	—
70A Constructional arrangement and operation (Installation Inlet, Compressors, Combustion Section, Turbine Section, Bearings and Seals, Lubrication Systems)	X/X	—	—	—	—	—	—	—	—	—	—
Turbine engines:											
70B Engine Performance	—	—	—	—	—	X	—	—	—	—	—
71 Power Plant	X/—	X	X	—	—	—	—	X	—	—	—
72 Engine Turbine/Turbo Prop/Ducted Fan/ Unducted fan	X/—	—	—	—	—	—	—	—	—	—	—
73 Engine Fuel and Control	X/X	X	—	—	—	—	—	—	—	—	—
73A FADEC Systems	X/X	X	—	X	X	X	X	—	X	X	X
74 Ignition	X/X	X	—	—	—	—	X	—	—	—	—
75 Air	X/—	—	—	X	—	X	—	—	—	—	—

Chapters	B1/B2	B1					B2				
	LOC	FOT	SGH	R/I	MEL	TS	FOT	SGH	R/I	MEL	TS
76 Engine Controls	X/—	X	—	—	—	X	—	—	—	—	—
77 Engine Indicating	X/X	X	—	—	X	X	X	—	—	X	X
78 Exhaust	X/—	X	—	—	X	—	—	—	—	—	—
79 Oil	X/—	—	X	X	—	—	—	—	—	—	—
80 Starting	X/—	X	—	—	X	X	—	—	—	—	—
82 Water Injection	X/—	X	—	—	—	—	—	—	—	—	—
83 Accessory Gearboxes	X/—	—	X	—	—	—	—	—	—	—	—
84 Propulsion Augmentation	X/—	X	—	—	—	—	—	—	—	—	—
Auxiliary Power Units (APUs):											
49 Auxiliary Power Units (APUs)	X/—	X	X	—	—	X	—	—	—	—	—
Piston Engines:											
70 Standard Practices — Engines — only type particular	—	—	X	—	—	—	—	X	—	—	—
70A Constructional arrangement and operation (Installation Inlet, Compressors, Combustion Section, Turbine Section, Bearings and Seals, Lubrication Systems)	X/X	—	—	—	—	—	—	—	—	—	—
70B Engine Performance	—	—	—	—	—	X	—	—	—	—	—
71 Power Plant	X/—	X	X	—	—	—	—	X	—	—	—
73 Engine Fuel and Control	X/X	X	—	—	—	—	—	—	—	—	—
73A FADEC Systems	X/X	X	—	X	X	X	X	X	X	X	X
74 Ignition	X/X	X	—	—	—	—	X	—	—	—	—
76 Engine Controls	X/—	X	—	—	—	X	—	—	—	—	—
77 Engine Indicating	X/X	X	—	—	X	X	X	—	—	X	X
78 Exhaust	X/—	X	—	—	X	X	—	—	—	—	—
79 Oil	X/—	—	X	X	—	—	—	—	—	—	—
80 Starting	X/—	X	—	—	X	X	—	—	—	—	—
81 Turbines	X/—	X	X	X	—	X	—	—	—	—	—
82 Water Injection	X/—	X	—	—	—	—	—	—	—	—	—
83 Accessory Gearboxes	X/—	—	X	X	—	—	—	—	—	—	—
84 Propulsion Augmentation	X/—	X	—	—	—	—	—	—	—	—	—

Chapters	B1/B2	B1					B2				
	LOC	FOT	SGH	R/I	MEL	TS	FOT	SGH	R/I	MEL	TS
Propellers:											
60A Standard Practices — Propeller	—	—	—	X	—	—	—	—	—	—	—
61 Propellers/ Propulsion	X/X	X	X	—	X	X	—	—	—	—	—
61A Propeller Construction	X/X	—	X	—	—	—	—	—	—	—	—
61B Propeller Pitch Control	X/—	X	—	X	X	X	—	—	—	—	—
61C Propeller Synchronising	X/—	X	—	—	—	X	—	—	—	X	—
61D Propeller Electronic control	X/X	X	X	X	X	X	X	X	X	X	X
61E Propeller Ice Protection	X/—	X	—	X	X	X	—	—	—	—	—
61F Propeller Maintenance	X/X	X	X	X	X	X	X	X	X	X	X

4. Type training examination and assessment standard

Theoretical element examination standard

Regulation (EU) No 1321/2014

After the theoretical portion of the aircraft type training has been completed, a written examination shall be performed, which shall comply with the following:

(a) Format of the examination is of the multi-choice type. Each multi-choice question shall have 3 alternative answers of which only one shall be the correct answer. The total time is based on the total number of questions and the time for answering is based upon a nominal average of 90 seconds per question.

(b) The incorrect alternatives shall seem equally plausible to anyone ignorant of the subject. All the alternatives shall be clearly related to the question and of similar vocabulary, grammatical construction and length.

(c) In numerical questions, the incorrect answers shall correspond to procedural errors such as the use of incorrect sense (+ versus -) or incorrect measurement units. They shall not be mere random numbers.

(d) The level of examination for each chapter[1] shall be the one defined in point 2 'Aircraft type training levels'. However, the use of a limited number of questions at a lower level is acceptable.

(e) The examination shall be of the closed book type. No reference material is permitted. An exception will be made for the case of examining a B1 or B2 candidate's ability to interpret technical documents.

(f) The number of questions shall be at least 1 question per hour of instruction. The number of questions for each chapter and level shall be proportionate to:

[1] For the purpose of this point 4, a 'chapter' means each one of the rows preceded by a number in the table contained in point 3.1(e).

— the effective training hours spent teaching at that chapter and level,

— the learning objectives as given by the training needs analysis.

The competent authority of the Member State will assess the number and the level of the questions when approving the course.

(g) The minimum examination pass mark is 75 %. When the type training examination is split in several examinations, each examination shall be passed with at least a 75 % mark. In order to be possible to achieve exactly a 75 % pass mark, the number of questions in the examination shall be a multiple of 4.

(h) Penalty marking (negative points for failed questions) is not to be used.

(i) End of module phase examinations cannot be used as part of the final examination unless they contain the correct number and level of questions required.

Practical element assessment standard

Regulation (EU) No 1321/2014

After the practical element of the aircraft type training has been completed, an assessment must be performed, which must comply with the following:

(a) The assessment shall be performed by designated assessors appropriately qualified.

(b) The assessment shall evaluate the knowledge and skills of the trainee.

5. Type examination standard

Regulation (EU) No 1321/2014

Type examination shall be conducted by training organisations appropriately approved under Part-147 or by the competent authority.

The examination shall be oral, written or practical assessment based, or a combination thereof and it shall comply with the following requirements:

(a) Oral examination questions shall be open.

(b) Written examination questions shall be essay type or multi-choice questions.

(c) Practical assessment shall determine a person's competence to perform a task.

(d) Examinations shall be on a sample of chapters[1] drawn from point 3 type training/examination syllabus, at the indicated level.

(e) The incorrect alternatives shall seem equally plausible to anyone ignorant of the subject. All of the alternatives shall be clearly related to the question and of similar vocabulary, grammatical construction and length.

(f) In numerical questions, the incorrect answers shall correspond to procedural errors such as corrections applied in the wrong sense or incorrect unit conversions: they shall not be mere random numbers.

(g) The examination shall ensure that the following objectives are met:

1. Properly discuss with confidence the aircraft and its systems.

2. Ensure safe performance of maintenance, inspections and routine work according to the maintenance manual and other relevant instructions and tasks as appropriate for the

[1] For the purpose of this point 5, a 'chapter' means each one of the rows preceded by a number in the tables contained in points 3.1(e) and 3.2(b).

type of aircraft, for example troubleshooting, repairs, adjustments, replacements, rigging and functional checks such as engine run, etc., if required.

3. Correctly use all technical literature and documentation for the aircraft.

4. Correctly use specialist/special tooling and test equipment, perform removal and replacement of components and modules unique to type, including any on-wing maintenance activity

(h) The following conditions apply to the examination:

1. The maximum number of consecutive attempts is three. Further sets of three attempts are allowed with a 1 year waiting period between sets. A waiting period of 30 days is required after the first failed attempt within one set, and a waiting period of 60 days is required after the second failed attempt.

The applicant shall confirm in writing to the maintenance training organisation or the competent authority to which they apply for an examination, the number and dates of attempts during the last year and the maintenance training organisation or the competent authority where these attempts took place. The maintenance training organisation or the competent authority is responsible for checking the number of attempts within the applicable timeframes.

2. The type examination shall be passed and the required practical experience shall be completed within the 3 years preceding the application for the rating endorsement on the aircraft maintenance licence.

3. Type examination shall be performed with at least one examiner present. The examiner(s) shall not have been involved in the applicant's training.

(i) A written and signed report shall be made by the examiner(s) to explain why the candidate has passed or failed.

6. On the Job Training

Regulation (EU) No 1321/2014

On the Job Training (OJT) shall be approved by the competent authority who has issued the licence.

It shall be conducted at and under the control of a maintenance organisation appropriately approved for the maintenance of the particular aircraft type and shall be assessed by designated assessors appropriately qualified.

It shall have been started and completed within the 3 years preceding the application for a type rating endorsement.

(a) Objective:

The objective of OJT is to gain the required competence and experience in performing safe maintenance.

(b) Content:

OJT shall cover a cross section of tasks acceptable to the competent authority. The OJT tasks to be completed shall be representative of the aircraft and systems both in complexity and in the technical input required to complete that task. While relatively simple tasks may be included, other more complex maintenance tasks shall also be incorporated and undertaken as appropriate to the aircraft type.

Each task shall be signed off by the student and countersigned by a designated supervisor. The tasks listed shall refer to an actual job card/work sheet, etc.

The final assessment of the completed OJT is mandatory and shall be performed by a designated assessor appropriately qualified.

The following data shall be addressed on the OJT worksheets/logbook:

1. Name of Trainee;
2. Date of Birth;
3. Approved Maintenance Organisation;
4. Location;
5. Name of supervisor(s) and assessor, (including licence number if applicable);
6. Date of task completion;
7. Description of task and job card/work order/tech log, etc.;
8. Aircraft type and aircraft registration;
9. Aircraft rating applied for.

In order to facilitate the verification by the competent authority, demonstration of the OJT shall consist of (i) detailed worksheets/logbook and (ii) a compliance report demonstrating how the OJT meets the requirement of this Part.

Appendix IV — Experience requirements for extending a Part-66 aircraft maintenance licence

Regulation (EU) 2018/1142

The table below shows the experience requirements for adding a new category or subcategory to an existing Part-66 licence.

The experience shall be practical maintenance experience in operating aircraft in the subcategory relevant to the application.

The experience requirement will be reduced by 50 % if the applicant has completed an approved Part-147 course relevant to the subcategory.

To / From	A1	A2	A3	A4	B1.1	B1.2	B1.3	B1.4	B2	B2L	B3
A1	—	6 months	6 months	6 months	2 years	6 months	2 years	1 year	2 years	1 year	6 months
A2	6 months	—	6 months	6 months	2 years	6 months	2 years	1 year	2 years	1 year	6 months
A3	6 months	6 months	—	6 months	2 years	1 year	2 years	6 months	2 years	1 year	1 year
A4	6 months	6 months	6 months	—	2 years	1 year	2 years	6 months	2 years	1 year	1 year
B1.1	None	6 months	6 months	6 months	—	6 months	6 months	6 months	1 year	1 year	6 months
B1.2	6 months	None	6 months	6 months	2 years	—	2 years	6 months	2 years	1 year	None
B1.3	6 months	6 months	None	6 months	6 months	6 months	—	6 months	1 year	1 year	6 months
B1.4	6 months	6 months	6 months	None	2 years	6 months	2 years	—	2 years	1 year	6 months
B2	6 months	6 months	6 months	6 months	1 year	1 year	1 year	1 year	—	—	1 year
B2L	6 months	6 months	6 months	6 months	1 year	1 year	1 year	1 year	1 year	—	1 year
B3	6 months	None	6 months	6 months	2 years	6 months	2 years	1 year	2 years	1 year	—

Appendix V — Application Form — EASA Form 19

Regulation (EU) 2018/1142

1. This Appendix contains an example of the form used for applying for the aircraft maintenance licence referred to in Annex III (Part-66).

2. The competent authority of the Member State may modify the EASA Form 19 only to include additional information necessary to support the case where the national requirements permit or require the aircraft maintenance licence issued in accordance with Annex III (Part-66) to be used outside the requirements of Annex I (Part-M) and Annex II (Part-145).

APPLICATION FOR INITIAL/AMENDMENT/RENEWAL OF PART-66 AIRCRAFT MAINTENANCE LICENCE (AML)	EASA FORM 19

APPLICANT'S DETAILS:

Name: ……

Address: ……

Tel: …… E-mail: ……

Nationality: …… Date and Place of Birth: ……

PART-66 AML DETAILS (if applicable):

Licence No: …… Date of Issue: ……

EMPLOYER'S DETAILS:

Name: ……

Address: ……

……

Maintenance Organisation Approval Reference: ……

Tel: …… Fax: ……

APPLICATION FOR: (Tick relevant boxes)

Initial AML ☐ Amendment of AML ☐ Renewal of AML ☐

(Sub)categories	**A**	**B1**	**B2**	**B2L**	**B3**	**C**	**L (see below)**
Aeroplane Turbine	☐	☐					
Aeroplane Piston	☐	☐					
Helicopter Turbine	☐	☐					
Helicopter Piston	☐	☐					
Avionics			☐	☐ See system ratings below			
Piston engine non-pressurised aeroplanes of MTOM of 2t and below					☐		
Complex motor-powered aircraft						☐	
Aircraft other than complex motor-powered aircraft						☐	

System ratings for B2L licence:

1. autoflight ☐
2. instruments ☐
3. com/nav ☐
4. surveillance ☐
5. airframe systems ☐

L-licence subcategories: ☐

L1C: Composite sailplanes ☐

L1: Sailplanes ☐

L2C: Composite powered sailplanes and composite ELA1 aeroplanes ☐

L2: Powered sailplanes and ELA1 aeroplanes ☐

L3H: Hot-air balloons ☐
L3G: Gas balloons ☐
L4H: Gas balloons ☐
L4H: Hot-air airships ☐
L4G: ELA2 gas airships ☐
L5: Gas airship other than ELA2 ☐
Type endorsements/Rating endorsement/Limitation removal (if applicable):
……

I wish to apply for initial/amendment of/renewal of Part-66 AML, as indicated, and confirm that the information contained in this form was correct at the time of application.

I herewith confirm that:

1. I am not holding any Part-66 AML issued in another Member State;

2. I have not applied for any Part-66 AML in another Member State; and

3. I never had a Part-66 AML issued in another Member State which was revoked or suspended in any other Member State.

I also understand that any incorrect information could disqualify me from holding a Part-66 AML.

Signed: …… Name: ……

Date: ……

I wish to claim the following credits (if applicable):
……
……
……
Experience credits for Part-147 training
……
……
……
Examination credits for equivalent exam certificates
……
……
……
Please enclose all relevant certificates

Recommendation (if applicable): It is hereby certified that the applicant has met the relevant Part-66 maintenance knowledge and experience requirements and it is recommended that the competent authority grants or endorses the Part-66 AML.

Signed: …… Name: ……

Position: …… Date: ……

EASA Form 19 Issue 5

Appendix VI — Aircraft Maintenance Licence referred to in Annex III (Part-66) — EASA Form 26

Regulation (EU) 2018/1142

1. An example of the aircraft maintenance licence referred to in Annex III (Part-66) can be found on the following pages.

2. The document shall be printed in the standardised form shown but may be reduced in size to allow it being generated by computer. When the size is reduced, care shall be taken to ensure that sufficient space is available in those places where official seals or stamps are required. Computer-generated documents need not have all the boxes incorporated when any such box remains blank, so long as the document can clearly be recognised as an aircraft maintenance licence issued in accordance with Annex III (Part-66).

3. The document may be filled in either in English or the official language of the Member State of the competent authority. In the latter case, a second copy in English shall be attached to the document for any licence holder who needs to use the licence outside that Member State to ensure understanding for the purpose of mutual recognition.

4. Each licence holder shall have a unique licence holder number, established on the basis of a national identifier and an alpha-numeric designator.

5. The document may have the pages in a different order to the one of this example and needs not have some or any divider lines as long as the information contained is positioned in such a manner that each page lay-out can clearly be identified with the format of the example of the aircraft maintenance licence contained herein.

6. The document shall be prepared by the competent authority. However, it may also be prepared by any maintenance organisation approved in accordance with Annex II (Part-145), where the competent authority agrees to this and the preparation takes place in accordance with a procedure laid down in the maintenance organisation exposition referred to in point 145.A.70 of Annex II (Part-145). In all cases, the competent authority shall issue the document.

7. The preparation of any change to an existing aircraft maintenance licence shall be carried out by the competent authority. However, it may also be prepared by any maintenance organisation approved in accordance with Annex II (Part-145), where the competent authority agrees to this and the preparation takes place in accordance with a procedure laid down in the maintenance organisation exposition referred to in point 145.A.70 of Annex II (Part-145). In all cases, the competent authority shall change the document.

8. The holder of the aircraft maintenance licence shall keep it in good condition and shall ensure that no unauthorised entries are made. Failure to comply with this rule may invalidate the license or lead to the holder not being permitted to hold any certification privilege. It may also result in prosecution under national law.

9. The aircraft maintenance licence issued in accordance with Annex III (Part-66) shall be recognised in all Member States and it is not required to exchange the document when working in another Member State.

10. The Annex to EASA Form 26 is optional and may only be used to include national privileges, where such privileges are covered by national law outside the scope of Annex III (Part-66).

11. With regard to the aircraft type rating page of the aircraft maintenance licence, the competent authority may decide not to issue this page until the first aircraft type rating needs to be endorsed and may need to issue more than one aircraft type rating page depending on the number of type ratings to be listed.

12. Notwithstanding point 11, each page issued shall be in the format of this example and contain the specified information for that page.

13. The aircraft maintenance licence shall clearly indicate that the limitations are exclusions from the certification privileges. If there are no limitations applicable, the LIMITATIONS page shall state 'No limitations'.

14. Where a pre-printer format is used for issuing the aircraft maintenance licence, any category, subcategory or type rating box which does not contain a rating entry shall be marked to show that the rating is not held.

I.
EUROPEAN UNION (*)
[STATE]
[AUTHORITY NAME & LOGO]

II.
Part-66
AIRCRAFT MAINTENANCE LICENCE

III.
Licence No. [MEMBER STATE CODE].66.[XXXX]

EASA FORM 26 Issue 5

IVa. Full name of holder:

IVb. Date and place of birth:

V. Address of holder:

VI. Nationality of holder:

VII. Signature of holder:

III. Licence No:

VIII. CONDITIONS:

This licence shall be signed by the holder and be accompanied by an identity document containing a photograph of the licence holder.

Endorsement of any categories on the page(s) entitled 'Part-66 CATEGORIES' only, does not permit the holder to issue a certificate of release to service for an aircraft.

This licence, when endorsed with an aircraft rating, meets the intent of ICAO Annex 1.

The privileges of this licence holder are prescribed by Regulation (EU) No 1321/2014 and, in particular, Annex III (Part-66) thereto.

This licence remains valid until the date specified on the limitation page unless previously suspended or revoked.

The privileges of this licence may not be exercised unless in the preceding two-year period, the holder had either six months of maintenance experience in accordance with the privileges granted by the licence, or met the provisions for the issue of the appropriate privileges.

III. Licence No:

IX. Part-66 CATEGORIES

VALIDITY	A	B1	B2	B2L	B3	L	C
Aeroplanes Turbine			n/a		n/a	n/a	n/a
Aeroplanes Piston			n/a		n/a	n/a	n/a
Helicopters Turbine			n/a		n/a	n/a	n/a
Helicopters Piston			n/a		n/a	n/a	n/a
Avionics	n/a	n/a			n/a	n/a	n/a
Complex motor-powered aircraft	n/a	n/a	n/a		n/a	n/a	
Aircraft other than complex motor-powered aircraft	n/a	n/a	n/a		n/a	n/a	
Sailplanes, powered sailplanes, ELA1 aeroplanes, balloons and airships	n/a	n/a	n/a		n/a		n/a
Piston engine non pressurised aeroplanes of 2 000 kg MTOM and below	n/a	n/a	n/a			n/a	n/a

X. Signature of issuing officer & date:

XI. Seal or stamp of issuing authority:

III. Licence No:

XII. PART-66 RATINGS		
Aircraft Rating/ System ratings	Category/Subcategory	Stamp & Date
III. Licence No:		

XIII. PART-66 LIMITATIONS
Valid until:
III. Licence No:

Annex to EASA FORM 26

XIV. NATIONAL PRIVILEGES outside the scope of Part-66, in accordance with [National Legislation] (Valid only in [Member State])

Official Stamp & Date

III. Licence No:

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EASA Form 26 Issue 5

Appendix VII — Basic knowledge requirements for category L aircraft maintenance licence

Regulation (EU) 2018/1142

The definitions of the different levels of knowledge required in this Appendix are the same as those contained in point 1 of Appendix I to Annex III (Part-66).

Subcategories	Modules required for each subcategory (refer to the syllabus table below)
L1C: composite sailplanes	1L, 2L, 3L, 5L, 7L and 12L
L1: sailplanes	1L, 2L, 3L, 4L, 5L, 6L, 7L and 12L
L2C: composite powered sailplanes and composite ELA1 aeroplanes	1L, 2L, 3L, 5L, 7L, 8L and 12L
L2: powered sailplanes and ELA1 aeroplanes	1L, 2L, 3L, 4L, 5L, 6L, 7L, 8L and 12L
L3H: hot-air balloons	1L, 2L, 3L, 9L and 12L
L3G: gas balloons	1L, 2L, 3L, 10L and 12L
L4H: hot-air airships	1L, 2L, 3L, 8L, 9L, 11L and 12L
L4G: ELA2 gas airships	1L, 2L, 3L, 8L, 10L, 11L and 12L
L5: gas airships above ELA2	Basic knowledge requirements for any B1 subcategory plus 8L (for B1.1 and B1.3), 10L, 11L and 12L

TABLE OF CONTENTS:

MODULE 1L — BASIC KNOWLEDGE

MODULE 1L — BASIC KNOWLEDGE	Level
1L.1 Mathematics Arithmetic — Arithmetical terms and signs; — Methods of multiplication and division; — Fractions and decimals; — Factors and multiples; — Weights, measures and conversion factors; — Ratio and proportion; — Averages and percentages;	1

MODULE 1L — BASIC KNOWLEDGE	Level
— Areas and volumes, squares, cubes. Algebra — Evaluating simple algebraic expressions: addition, subtraction, multiplication and division; — Use of brackets; — Simple algebraic fractions. Geometry — Simple geometrical constructions; — Graphical representation: nature and uses of graphs.	
1L.2 Physics Matter — Nature of matter: the chemical elements; — Chemical compounds; — States: solid, liquid and gaseous; — Changes between states. Mechanics — Forces, moments and couples, representation as vectors; — Centre of gravity; — Tension, compression, shear and torsion; — Nature and properties of solids, fluids and gases. Temperature — Thermometers and temperature scales: Celsius, Fahrenheit and Kelvin; — Heat definition.	1
1L.3 Electrics DC Circuits — Ohm's law, Kirchoff's voltage and current laws; — Significance of the internal resistance of a supply; — Resistance/resistor; — Resistor colour code, values and tolerances, preferred values, wattage ratings; — Resistors in series and parallel.	1
1L.4 Aerodynamics/aerostatics International Standard Atmosphere (ISA), application to aerodynamics and aerostatics. Aerodynamics — Airflow around a body; — Boundary layer, laminar and turbulent flow; — Thrust, weight, aerodynamic resultant; — Generation of lift and drag: angle of attack, polar curve, stall. Aerostatics Effect on envelopes, wind effect, altitude and temperature effects.	1
1L.5 Workplace safety and environmental protection — Safe working practices and precautions when working with electricity, gases (especially oxygen), oils and chemicals; — Labelling, storage and disposal of hazardous (to safety and environment) materials; — Remedial action in the event of a fire or another accident with one or more hazards, including knowledge of extinguishing agents.	2

MODULE 2L — HUMAN FACTORS

MODULE 2L — HUMAN FACTORS	Level
2L.1 General — The need to take human factors into account; — Incidents attributable to human factors/human error; — Murphy's Law.	1
2L.2 Human performance and limitations Vision, hearing, information processing, attention and perception, memory.	1

MODULE 2L — HUMAN FACTORS	Level
2L.3 Social psychology Responsibility, motivation, peer pressure, teamwork.	1
2L.4 Factors affecting performance Fitness/health, stress, sleep, fatigue, alcohol, medication, drug abuse.	1
2L.5 Physical environment Working environment (climate, noise, illumination).	1

MODULE 3L — AVIATION LEGISLATION

MODULE 3L — AVIATION LEGISLATION	Level
3L.1 Regulatory framework — Role of the European Commission, EASA and National Aviation Authorities (NAAs); — Applicable parts of Part-M and Part-66.	1
3L.2 Repairs and modifications — Approval of changes (repairs and modifications); — Standard changes and standard repairs.	2
3L.3 Maintenance data — Airworthiness Directives (ADs), Instructions for Continuing Airworthiness (ICA) (AMM, IPC, etc.); — Flight Manual; — Maintenance records.	2

MODULE 4L — AIRFRAME WOODEN/METAL TUBE AND FABRIC

MODULE 4L — AIRFRAME WOODEN/METAL TUBE AND FABRIC	Level
4L.1 Airframe wooden/combination of metal tube and fabric — Timber, plywood, adhesives, preservation, power line, properties, machining; — Covering (covering materials, adhesives and finishes, natural and synthetic covering materials and adhesives); — Paint, assembly and repair processes; — Recognition of damages from overstressing of wooden/metal-tube and fabric structures; — Deterioration of wood components and coverings; — Crack test (optical procedure, e.g., magnifying glass) of metal components. Corrosion and preventive methods. Health and fire safety protections.	2
4L.2 Material — Types of wood, stability, and machining properties; — Steel and light alloy tubes and fittings, fracture inspections of welded seams; — Plastics (overview, understanding of the properties); — Paints and paint removal; — Glues, adhesives; — Covering materials and technologies (natural and synthetic polymers).	2
4L.3 Identifying damage — Overstress of wood / metal-tubing and fabric structures; — Load transfers; — Fatigue strength and crack testing.	3
4L.4 Performance of practical activities — Locking of pins, screws, castellated nuts, turnbuckles; — Thimble splice; — Nicopress and Talurit repairs; — Repair of coverings; — Repair of transparencies; — Repair exercises (plywood, stringer, handrails, skins);	2

MODULE 4L — AIRFRAME WOODEN/METAL TUBE AND FABRIC	Level
— Aircraft Rigging. Calculation of control surface mass balance and range of movement of the control surfaces, measurement of operating forces; — Performance of 100-hours/annual inspections on a wood or combination of metal-tube and fabric airframe.	

MODULE 5L — AIRFRAME COMPOSITE

MODULE 5L — AIRFRAME COMPOSITE	Level
5L.1 Airframe fibre-reinforced plastic (FRP) — Basic principles of FRP construction; — Resins (Epoxy, polyester, phenolic resins, vinyl ester resins); — Reinforcement materials glass, aramide and carbon fibres, features; — Fillers; — Supporting cores (balsa, honeycombs, foamed plastics); — Constructions, load transfers (solid FRP shell, sandwiches); — Identification of damage during overstressing of components; — Procedure for FRP projects (according to Maintenance Organisation Manual) including storage conditions for material.	2
5L.2 Material — Thermosetting plastics, thermoplastic polymers, catalysts; — Understanding properties, machining technologies, detaching, bonding, welding; — Resins for FRP: epoxy resins, polyester resins, vinyl ester resins, phenolic resins; — Reinforcement materials; — From elementary fibre to filaments (release agent, finish), weaving patterns; — Properties of individual reinforcement materials (E-glass fibre, aramide fibre, carbon fibre); — Problem with multiple-material systems, matrix; — Adhesion/cohesion, various behaviours of fibre materials; — Filling materials and pigments; — Technical requirements for filling materials; — Property change of the resin composition through the use of E-glass, micro balloon, aerosols, cotton, minerals, metal powder, organic substances; — Paint assembly and repair technologies; — Support materials; — Honeycombs (paper, FRP, metal), balsa wood, Divinycell (Contizell), development trends.	2
5L.3 Assembly of Fibre-Reinforced Composite-Structure Airframes — Solid shell; — Sandwiches; — Assembly of aerofoils, fuselages, control surfaces.	2
5L.4 Identifying Damage — Behaviour of FRP components in the event of overstressing; — Identifying delaminations, loose bonds; — Bending vibration frequency in aerofoils; — Load transfer; — Frictional connection and positive locking; — Fatigue strength and corrosion of metal parts; — Metal bonding, surface finishing of steel and aluminium components during bonding with FRP.	3
5L.5 Mold making — Plaster molds, mold ceramics; — GFK molds, Gel-coat, reinforcement materials, rigidity problems; — Metal molds; — Male and female molds.	2
5L.6 Performance of practical activities	2

MODULE 5L — AIRFRAME COMPOSITE	Level
— Locking of pin, screws, castellated nuts, turnbuckles; — Thimble splice; — Nicopress and Talurit repairs; — Repair of coverings; — Repair of solid FRP shells; — Mold fabrication/molding of a component (e.g. fuselage nose, landing gear fairing, wing tip and winglet); — Repair of sandwich shell where interior and exterior layer are damaged; — Repair of sandwich shell by pressing with a vacuum bag; — Transparency repair (PMMA) with one- and two-component adhesive; — Bonding of transparency with the canopy frame; — Tempering of transparencies and other components; — Performance of a repair on a sandwich shell (minor repair less than 20 cm); — Aircraft Rigging. Calculation of control surface mass balance and range of movement of the control surfaces, measurement of operating forces; — Performance of 100-hour/annual inspections on an FRP airframe.	

MODULE 6L — AIRFRAME METAL

MODULE 6L — AIRFRAME METAL	Level
6L.1 Airframe metal — Metallic materials and semi-finished products, machining methods; — Fatigue strength and crack test; — Assembly of metal-construction components, riveted joints, adhesive joints; — Identification of damage to overstressed components, effects of corrosion; — Health and fire protection.	2
6L.2 Material — Steel and its alloys; — Light metals and their light alloys; — Rivet materials; — Plastics; — Colours and paints; — Metal adhesives; — Types of corrosion; — Covering materials and technologies (natural and synthetic).	2
6L.3 Identifying damage — Overstressed metal airframes, levelling, measurement of symmetry; — Load transfers; — Fatigue strength and crack test; — Identifying loose riveted joints.	3
6L.4 Assembly of metal- and composite-construction airframes — Skins; — Frames; — Stringers and longerons; — Frame construction; — Problems in multiple-material systems.	2
6L.5 Fasteners — Classifications of fits and clearances; — Metric and imperial measuring systems; — Oversize bolt.	2
6L.6 Performance of practical activities — Locking of pins, screws, castellated nuts, turnbuckles; — Thimble splice;	2

MODULE 6L — AIRFRAME METAL	Level
— Nicopress and Talurit repairs; — Repair of coverings, surface damage, stop drilling techniques; — Repair of transparencies; — Cutting out sheet metals (aluminiums and light alloys, steel and alloys); — Folding bending, edging, beating, smoothening, beading; — Repair riveting of metal airframes according to repair instruction or drawings; — Evaluation of rivet errors; — Aircraft Rigging. Calculation of control surface mass balance and range of movement of the control surfaces, measurement of operating forces; — Performance of 100-hour/annual inspections on a metal airframe.	

MODULE 7L — AIRFRAME GENERAL

MODULE 7L — AIRFRAME GENERAL	Level
7L.1 Flight control system — Cockpit controls: controls in cockpit, colour markings, knob shapes; — Flight controls surfaces, flaps, air brakes surfaces, controls, hinges, bearings, brackets, push-pull rods, bell cranks, horns, pulleys, cables, chains, tubes, rollers, tracks, jack screws, surfaces, movements, lubrication, stabilisers, balancing of controls; — Combination of controls: flap ailerons, flap air brakes; — Trim systems.	3
7L.2 Airframe — Landing gear: characteristics of landing gears and shock absorber strut, extension, brakes, drum, disks, wheel, tyre, retraction mechanism, electrical retraction, emergency; — Wing to fuselage mounting points, empennage (fin and tail plane) to fuselage mounting points, control surface mounting points; — Permissible maintenance measures; — Towing: towing/lifting equipment/mechanism; — Cabin: seats and safety harness, cabin arrangement, windshields, windows, placards, baggage compartment, cockpit controls, cabin air system, blower; — Water ballast: water reservoirs, lines, valves, drains, vents, tests; — Fuel system: tanks, lines, filters, vents, drains, filling, selector valve, pumps, indication, tests, bonding; — Hydraulics: system layout, accumulators, pressure and power distribution, indication; — Liquid and gas: hydraulic, other fluids, levels, reservoir, lines, valves, filter; — Protections: firewalls, fire protection, lightning strike bonding, turnbuckles, locking devices, dischargers.	2
7L.3 Fasteners — Reliability of pins, rivets, screws; — Control cables, turnbuckles; — Quick-release couplings (L'Hotellier, SZD, Poland).	2
7L.4 Locking equipment — Admissibility of locking methods, locking pins, spring steel pins, locking wire, stop nuts, paint; — Quick-release couplings.	2
7L.5 Weight and balance levelling	2
7L.6 Rescue systems	2
7L.7 On-board modules — Pitot-static system, vacuum/dynamic system, hydrostatic test; — Flight instruments: airspeed indicator, altimeter, vertical-speed indicator, connection and functioning, markings; — Arrangement and display, panel, electrical wires; — Gyroscopes, filters, indicating instruments; testing of function; — Magnetic compass: installation and compass swing;	2

MODULE 7L — AIRFRAME GENERAL	Level
— Sailplanes: acoustic vertical-speed indicator, flight recorders, anticollision aid; — Oxygen system.	
7L.8 On-board modules installation and connections — Flight instruments, mounting requirements (emergency landing conditions as per CS-22); — Electric wiring, power sources, types of storage batteries, electrical parameters, electric generator, circuit breaker, energy balance, earth/ground, connectors, terminals, warnings, fuses, lamps, lightings, switches, voltmeters, ampere meters, electrical gauges.	2
7L.9 Piston engine propulsion Interface between power plant and airframe.	2
7L.10 Propeller — Inspection; — Replacement; — Balancing.	2
7L.11 Retraction system — Propeller position control; — Engine and/or propeller retraction system.	2
7L.12 Physical inspection procedures — Cleaning, use of lighting and mirrors; — Measuring tools; — Measure of controls deflection; — Torque of screws and bolts; — Wear of bearings; — Inspection equipment; — Calibration of measuring tools.	2

MODULE 8L — POWER PLANT

MODULE 8L — POWER PLANT	Level
8L.1 Noise limits — Explanation of the concept of 'noise level'; — Noise certificate; — Enhanced sound proofing; — Possible reduction of sound emissions.	1
8L.2 Piston engines — Four-stroke spark ignition engine, air-cooled engine, fluid-cooled engine; — Two-stroke engine; — Rotary-piston engine; — Efficiency and influencing factors (pressure–volume diagram, power curve); — Noise control devices.	2
8L.3 Propeller — Blade, spinner, backplate, accumulator pressure, hub; — Operation of propellers; — Variable-pitch propellers, ground and in-flight adjustable propellers, mechanically, electrically and hydraulically; — Balancing (static, dynamic); — Noise problems.	2
8L.4 Engine control devices — Mechanical control devices; — Electrical control devices; — Tank displays; — Functions, characteristics, typical errors and error indications.	2

MODULE 8L — POWER PLANT	Level
8L.5 Hosepipes — Material and machining of fuel and oil hoses; — Control of life limit.	2
8L.6 Accessories — Operation of magneto ignition; — Control of maintenance limits; — Operation of carburettors; — Maintenance instructions on characteristic features; — Electric fuel pumps; — Operation of propeller controls; — Electrically operated propeller control; — Hydraulically operated propeller control.	2
8L.7 Ignition system — Constructions: coil ignition, magneto ignition, and thyristor ignition; — Efficiency of the ignition and preheat system; — Modules of the ignition and preheat system; — Inspection and testing of a spark plug.	2
8L.8 Induction and exhaust systems — Operation and assembly; — Silencers and heater installations; — Nacelles and cowlings; — Inspection and test; — CO emission test.	2
8L.9 Fuels and lubricants — Fuel characteristics; — Labelling, environmentally friendly storage; — Mineral and synthetic lubricating oils and their parameters: labelling and characteristics, application; — Environmentally friendly storage and proper disposal of used oil.	2
8L.10 Documentation — Manufacturer documents for the engine and propeller; — Instructions for Continuing Airworthiness (ICA); — Aircraft Flight Manuals (AFMs) and Aircraft Maintenance Manuals (AMMs); — Time Between Overhaul (TBO); — Airworthiness Directives (ADs), technical notes and service bulletins.	2
8L.11 Illustrative material — Cylinder unit with valve; — Carburettor; — High-tension magneto; — Differential-compression tester for cylinders; — Overheated/damaged pistons; — Spark plugs of engines that were operated differently.	2
8L.12 Practical experience — Work safety/accident prevention (handling of fuels and lubricants, start-up of engines); — Rigging-engine control rods and Bowden cables; — Setting of no-load speed; — Checking and setting the ignition point; — Operational test of magnetos; — Checking the ignition system; — Testing and cleaning of spark plugs; — Performance of the engine tasks contained in an aeroplane 100-hour/annual inspection; — Cylinder compression test;	2

MODULE 8L — POWER PLANT	Level
— Static test and evaluation of the engine run; — Documentation of maintenance work including replacement of components.	
8L.13 Gas exchange in internal-combustion engines — Four-stroke reciprocating engine and control units; — Energy losses; — Ignition timing; — Direct flow behaviour of control units; — Wankel engine and control units; — Two-stroke engine and control units; — Scavenging; — Scavenging blower; — Idle range and power range.	2
8L.14 Ignition, combustion and carburation — Ignition; — Spark plugs; — Ignition system; — Combustion process; — Normal combustion; — Efficiency and medium pressure; — Engine knock and octane rating; — Combustion chamber shapes; — Fuel/air mix in the carburettor; — Carburettor principle, carburettor equation; — Simple carburettor; — Problems of the simple carburettor and their solutions; — Carburettor models; — Fuel/air mix during injection; — Mechanically controlled injection; — Electronically controlled injection; — Continuous injection; — Carburettor-injection comparison.	2
8L.15 Flight instruments in aircraft with injection engines — Special flight instruments (injection engine); — Interpretation of indications in a static test; — Interpretation of indications in flight at various flight levels.	2
8L.16 Maintenance of aircraft with injection engines — Documentation, manufacturer documents, etc.; — General maintenance instructions (hourly inspections); — Functional tests; — Ground test run; — Test flight; — Troubleshooting in the event of faults in the injection system and their correction.	2
8L.17 Workplace safety and safety provisions Work safety and safety provisions for work on injection systems.	2
8L.18 Visual aids: — Carburettor; — Components of injection system; — Aircraft with injection engine; — Tool for work on injection systems.	2
8L.19 Electrical propulsion — Energy system, accumulators, installation; — Electrical motor;	2

MODULE 8L — POWER PLANT	Level
— Heat, noise and vibration checks; — Testing windings; — Electrical wiring and control systems; — Pylon, extension and retraction systems; — Motor/propeller brake systems; — Motor ventilation systems; — Practical experience of 100-hour/annual inspections.	
8L.20 Jet propulsion — Engine installation; — Pylon, extension and retraction systems; — Fire protection; — Fuel systems including lubrication; — Engine starting systems, gas assist; — Engine damage assessment; — Engine servicing; — Engine removal / refit and test; — Practical experience of conditional / run time / annual inspections; — Conditional inspections.	2
8L.21 Full authority digital engine control (FADEC)	2

MODULE 9L — BALLOON/AIRSHIP HOT AIR

MODULE 9L — BALLOON/AIRSHIP HOT AIR	Level
9L.1 Basic principles and assembly of hot-air balloons/airships — Assembly and individual parts; — Envelopes; — Envelope Materials; — Envelope Systems; — Conventional and special shapes; — Fuel System; — Burner, burner frame and burner support rods; — Compressed-gas cylinders and compressed-gas hoses; — Basket and alternative devices (seats); — Rigging accessories; — Maintenance and servicing tasks; — Annual/100-hour inspection; — Log Books; — Aircraft Flight Manuals (AFMs) and Aircraft Maintenance Manuals (AMMs); — Rigging and launch preparation (launch restraint); — Launch.	3
9L.2 Practical training Operating controls, maintenance and servicing jobs (according to flight manual).	3
9L.3 Envelope — Fabrics; — Seams; — Load tapes, rip stoppers; — Crown rings; — Parachute valve and fast-deflation systems; — Ripping panel; — Turning vent; — Diaphragms/catenaries (special shapes and airships); — Rollers, pulleys; — Control and shroud lines;	3

MODULE 9L — BALLOON/AIRSHIP HOT AIR	Level
— Knots; — Temperature indication label, temperature flag, envelope thermometer; — Flying wires; — Fittings, karabiners.	
9L.4 Burner and fuel system — Burner coils; — Blast, liquid and pilot valves; — Burners/jets; — Pilot lights/vaporisers/jets; — Burner frame; — Fuel lines/hoses; — Fuel cylinders, valves and fittings.	3
9L.5 Basket and basket suspension (incl. alternative devices) — Types of baskets (incl. alternative devices); — Basket materials: cane and willow, hide, wood, trim materials, suspension cables; — Seats, roller bearings; — Karabiner, shackle and pins; — Burner support rods; — Fuel cylinder straps; — Accessories.	3
9L.6 Equipment — Fire extinguisher, fire blanket; — Instruments (single or combined).	3
9L.7 Minor repairs — Stitching; — Bonding; — Basket hide/trim repairs.	3
9L.8 Procedures for physical inspection — Cleaning, use of lighting and mirrors; — Measuring tools; — Measure of controls deflection (only airships); — Torque of screws and bolts; — Wear of bearings (only airships); — Inspection equipment; — Calibration of measuring tools; — Fabric Grab Test.	2

MODULES 10L — BALLOON/AIRSHIP GAS (FREE/TETHERED)

MODULES 10L — BALLOON/AIRSHIP GAS (FREE/TETHERED)	Level
10L.1 Basic principles and assembly of gas balloons/airships — Assembly of individual parts; — Envelope and netting material; — Envelope, ripping panel, emergency opening, cords and belts; — Rigid gas valve; — Flexible gas valve (parachute); — Netting; — Load ring; — Basket and accessories (including alternative devices); — Electrostatic discharge paths; — Mooring line and drag rope; — Maintenance and servicing; — Annual inspection;	3

MODULES 10L — BALLOON/AIRSHIP GAS (FREE/TETHERED)	Level
— Flight papers; — Aircraft Flight Manuals (AFMs) and Aircraft Maintenance Manuals (AMMs); — Rigging and launch preparation; — Launch.	
10L.2 Practical training — Operating controls; — Maintenance and servicing jobs (according to AMM and AFM); — Safety rules when using hydrogen as lifting gas.	3
10L.3 Envelope — Fabrics; — Poles and reinforcement of pole; — Ripping panel and cord; — Parachute and shroud lines; — Valves and cords; — Filler neck, Poeschel-ring and cords; — Electrostatic discharge paths.	3
10L.4 Valve — Springs; — Gaskets; — Screwed joints; — Control lines; — Electrostatic discharge paths.	3
10L.5 Netting or rigging (without net) — Kinds of net and other lines; — Mesh sizes and angles; — Net ring; — Knotting methods; — Electrostatic discharge paths.	3
10L.6 Load ring	3
10L.7 Basket (incl. alternative devices) — Kinds of baskets (incl. alternative devices); — Strops and toggles; — Ballast system (bags and supports); — Electrostatic discharge paths.	3
10L.8 Ripping cord and valve cords	3
10L.9 Mooring line and drag rope	3
10L.10 Minor repairs — Bonding; — Splicing hemp ropes.	3
10L.11 Equipment Instruments (single or combined).	3
10L.12 Tether cable (tethered gas balloons (TGB) only) — Kinds of cables; — Acceptable damage of cable; — Cable swivel; — Cable clamps.	3
10L.13 Winch (tethered gas balloons only) — Kinds of winches; — Mechanical system; — Electrical system; — Emergency system;	3

MODULES 10L — BALLOON/AIRSHIP GAS (FREE/TETHERED)	Level
— Grounding/ballasting of winch.	
10L.14 Procedures for physical inspection — Cleaning, use of lighting and mirrors; — Measuring tools; — Measure of controls deflection (only airships); — Torque of screws and bolts; — Wear of bearings (only airships); — Inspection equipment; — Calibration of measuring tools; — Fabric grab test.	2

MODULES 11L — AIRSHIPS HOT AIR/GAS

MODULES 11L — AIRSHIPS HOT AIR/GAS	Level
11L.1 Basic principles and assembly of small airships — Envelope, ballonnets; — Valves, openings; — Gondola; — Propulsion; — Aircraft Flight Manuals (AFMs) and Aircraft Maintenance Manuals (AMMs); — Rigging and launch preparation.	3
11L.2 Practical training — Operating controls; — Maintenance and servicing jobs (according to AMM and AFM).	3
11L.3 Envelope — Fabrics; — Ripping panel and cords; — Valves; — Catenary system.	3
11L.4 Gondola (incl. alternative devices) — Kinds of gondolas (incl. alternative devices); — Airframe types and materials; — Identification of damage.	3
11L.5 Electrical system — Basics about on-board electrical circuits; — Electrical sources (accumulators, fixation, ventilation, corrosion); — Lead, nickel-cadmium (NiCd) or other accumulators, dry batteries; — Generators; — Wiring, electrical connections; — Fuses; — External power source; — Energy balance.	3
11L.6 Propulsion — Fuel system: tanks, lines, filters, vents, drains, filling, selector valve, pumps, indication, tests, bonding; — Propulsion instruments; — Basics about measuring and instruments; — Revolution measuring; — Pressure measuring; — Temperature measuring; — Available fuel/power measuring.	3

MODULES 11L — AIRSHIPS HOT AIR/GAS	Level
11L.7 Equipment — Fire extinguisher, fire blanket; — Instruments (single or combined).	3

MODULE 12L — RADIO COM/ELT/TRANSPONDER/INSTRUMENTS

MODULE 12L — RADIO COM/ELT/TRANSPONDER/INSTRUMENTS	Level
12L.1 Radio Com/ELT — Channel spacing; — Basic functional test; — Batteries; — Testing and maintenance requirements.	2
12L.2 Transponder — Basic operation; — Typical portable configuration including antenna; — Explanation of Modes A, C, S; — Testing and maintenance requirements.	2
12L.3 Instruments — Handheld altimeter/variometers; — Batteries; — Basic functional test.	2

Appendix VIII — Basic examination standard for category L aircraft maintenance licence

Regulation (EU) 2018/1142

(a) The standardisation basis for examinations related to the Appendix VII basic knowledge requirements shall be as follows:

(i) all examinations must be carried out using the multiple-choice question format as specified in point (ii). The incorrect alternatives must seem equally plausible to anyone ignorant of the subject. All of the alternatives should be clearly related to the question and of similar vocabulary, grammatical construction and length. In numerical questions, the incorrect answers should correspond to procedural errors such as corrections applied in the wrong sense or incorrect unit conversions: they must not be mere random numbers;

(ii) each multiple-choice question must have three alternative answers of which only one must be the correct answer and the candidate must be allowed a time per module which is based upon a nominal average of 75 seconds per question;

(iii) the pass mark for each module is 75 %;

(iv) penalty marking (negative points for failed questions) is not to be used;

(v) the level of knowledge required in the questions must be proportionate to the level of technology of the aircraft category.

(b) The number of questions per module shall be as follows:

(i) module 1L ‘Basic knowledge’: 12 questions. Time allowed: 15 minutes;

(ii) module 2L ‘Human factors’: 8 questions. Time allowed: 10 minutes;

(iii) module 3L ‘Aviation legislation’: 24 questions. Time allowed: 30 minutes;

(iv) module 4L ‘Airframe wooden/metal tube and fabric’: 32 questions. Time allowed: 40 minutes;

(v) module 5L ‘Airframe composite’: 32 questions. Time allowed: 40 minutes;

(vi) module 6L ‘Airframe metal’: 32 questions. Time allowed: 40 minutes;

(vii) module 7L ‘Airframe general’: 64 questions. Time allowed: 80 minutes;

(viii) module 8L ‘Power plant’: 48 questions. Time allowed: 60 minutes;

(ix) module 9L ‘Balloon/Airship hot air’: 36 questions. Time allowed: 45 minutes;

(x) module 10L ‘Balloon/Airship gas (free/tethered)’: 40 questions. Time allowed: 50 minutes;

(xi) module 11L ‘Airships hot air/gas’: 36 questions. Time allowed: 45 minutes;

(xii) Module 12L ‘Radio Com/ELT/transponder/instruments’: 16 questions. Time allowed 20 minutes.

ANNEX IV (PART-147)

GENERAL

147.1

Regulation (EU) No 1321/2014

For the purpose of this Part, the competent authority shall be:

1. for the organisations having their principle place of business located in the territory of a Member State, the authority designated by that Member State;
2. for the organisations having their principle place of business located in a third country, the Agency.

SECTION A — TECHNICAL REQUIREMENTS

SUBPART A — GENERAL

147.A.05 Scope

Regulation (EU) No 1321/2014

This section establishes the requirements to be met by organisations seeking approval to conduct training and examination as specified in Annex III (Part-66).

147.A.10 General

Regulation (EU) No 1321/2014

A training organisation shall be an organisation or part of an organisation registered as a legal entity.

147.A.15 Application

Regulation (EU) No 1321/2014

(a) An application for an approval or for the change of an existing approval shall be made on a form and in a manner established by the competent authority.

(b) An application for an approval or change to an approval shall include the following information:

1. the registered name and address of the applicant;
2. the address of the organisation requiring the approval or change to the approval;
3. the intended scope of approval or change to the scope of approval;
4. the name and signature of the accountable manager;
5. the date of application.

SUBPART B — ORGANISATIONAL REQUIREMENTS

147.A.100 Facility requirements

Regulation (EU) No 1321/2014

(a) The size and structure of facilities shall ensure protection from the prevailing weather elements and proper operation of all planned training and examination on any particular day.

(b) Fully enclosed appropriate accommodation separate from other facilities shall be provided for the instruction of theory and the conduct of knowledge examinations.

1. The maximum number of students undergoing knowledge training during any training course shall not exceed 28.

2. The size of accommodation for examination purposes shall be such that no student can read the paperwork or computer screen of any other student from his/her position during examinations.

(c) The point (b) accommodation environment shall be maintained such that students are able to concentrate on their studies or examination as appropriate, without undue distraction or discomfort.

(d) In the case of a basic training course, basic training workshops and/or maintenance facilities separate from training classrooms shall be provided for practical instruction appropriate to the planned training course. If, however, the organisation is unable to provide such facilities, arrangements may be made with another organisation to provide such workshops and/or maintenance facilities, in which case a written agreement shall be made with such organisation specifying the conditions of access and use thereof. The competent authority shall require access to any such contracted organisation and the written agreement shall specify this access.

(e) In the case of an aircraft type/task training course, access shall be provided to appropriate facilities containing examples of aircraft type as specified in point 147.A.115(d).

(f) The maximum number of students undergoing practical training during any training course shall not exceed 15 per supervisor or assessor.

(g) Office accommodation shall be provided for instructors, knowledge examiners and practical assessors of a standard to ensure that they can prepare for their duties without undue distraction or discomfort.

(h) Secure storage facilities shall be provided for examination papers and training records. The storage environment shall be such that documents remain in good condition for the retention period as specified in point 147.A.125. The storage facilities and office accommodation may be combined, subject to adequate security.

(i) A library shall be provided containing all technical material appropriate to the scope and level of training undertaken.

147.A.105 Personnel requirements

Regulation (EU) No 1321/2014

(a) The organisation shall appoint an accountable manager who has corporate authority for ensuring that all training commitments can be financed and carried out to the standard required by this Part.

Regulation (EU) No 1321/2014

(b) A person or group of persons, whose responsibilities include ensuring that the maintenance training organisation is in compliance the requirements of this Part, shall be nominated. Such person(s) must be responsible to the accountable manager. The senior person or one person from the group of persons may also be the accountable manager subject to meeting the requirements for the accountable manager as defined in point (a).

Regulation (EU) No 1321/2014

(c) The maintenance training organisation shall contract sufficient staff to plan/perform knowledge and practical training, conduct knowledge examinations and practical assessments in accordance with the approval.

Regulation (EU) No 1321/2014

(d) By derogation to point (c), when another organisation is used to provide practical training and assessments, such other organisation's staff may be nominated to carry out practical training and assessments.

Regulation (EU) No 1321/2014

(e) Any person may carry out any combination of the roles of instructor, examiner and assessor, subject to compliance with point (f).

Regulation (EU) No 1321/2014

(f) The experience and qualifications of instructors, knowledge examiners and practical assessors shall be established in accordance with criteria published or in accordance with a procedure and to a standard agreed by the competent authority.

Regulation (EU) No 1321/2014

(g) The knowledge examiners and practical assessors shall be specified in the organisation exposition for the acceptance of such staff.

Regulation (EU) No 1321/2014

(h) Instructors and knowledge examiners shall undergo updating training at least every 24 months relevant to current technology, practical skills, human factors and the latest training techniques appropriate to the knowledge being trained or examined.

147.A.110 Records of instructors, examiners and assessors

Regulation (EU) No 1321/2014

(a) The organisation shall maintain a record of all instructors, knowledge examiners and practical assessors. These records shall reflect the experience and qualification, training history and any subsequent training undertaken.

(b) Terms of reference shall be drawn up for all instructors, knowledge examiners and practical assessors.

147.A.115 Instructional equipment

Regulation (EU) No 1321/2014

(a) Each classroom shall have appropriate presentation equipment of a standard that ensures students can easily read presentation text/drawings/diagrams and figures from any position in the classroom.

Presentation equipment shall include representative synthetic training devices to assist students in their understanding of the particular subject matter where such devices are considered beneficial for such purposes.

(b) The basic training workshops and/or maintenance facilities as specified in point 147.A.100(d) must have all tools and equipment necessary to perform the approved scope of training.

(c) The basic training workshops and/or maintenance facilities as specified in point 147.A.100(d) must have an appropriate selection of aircraft, engines, aircraft parts and avionic equipment.

(d) The aircraft type training organisation as specified in point 147.A.100(e) must have access to the appropriate aircraft type. Synthetic training devices may be used when such synthetic training devices ensure adequate training standards.

147.A.120 Maintenance training material

Regulation (EU) No 1321/2014

(a) Maintenance training course material shall be provided to the student and cover as applicable:

1. the basic knowledge syllabus specified in Annex III (Part-66) for the relevant aircraft maintenance licence category or subcategory and,

2. the type course content required by Annex III (Part-66) for the relevant aircraft type and aircraft maintenance licence category or subcategory.

(b) Students shall have access to examples of maintenance documentation and technical information of the library as specified in point 147.A.100(i).

147.A.125 Records

Regulation (EU) No 1321/2014

The organisation shall keep all student training, examination and assessment records for *an unlimited period.*

147.A.130 Training procedures and quality system

Regulation (EU) No 1321/2014

(a) The organisation shall establish procedures acceptable to the competent authority to ensure proper training standards and compliance with all relevant requirements in this Part.

(b) The organisation shall establish a quality system including:

1. an independent audit function to monitor training standards, the integrity of knowledge examinations and practical assessments, compliance with and adequacy of the procedures, and

2. a feedback system of audit findings to the person(s) and ultimately to the accountable manager referred to in point 147.A.105(a) to ensure, as necessary, corrective action.

147.A.135 Examinations

Regulation (EU) No 1321/2014

(a) The examination staff shall ensure the security of all questions.

(b) Any student found during a knowledge examination to be cheating or in possession of material pertaining to the examination subject other than the examination papers and associated

authorised documentation shall be disqualified from taking the examination and may not take any examination for at least 12 months after the date of the incident. The competent authority shall be informed of any such incident together with the details of any enquiry within one calendar month.

(c) Any examiner found during a knowledge examination to be providing question answers to any student being examined shall be disqualified from acting as an examiner and the examination declared void. The competent authority must be informed of any such occurrence within one calendar month.

147.A.140 Maintenance training organisation exposition

Regulation (EU) No 1321/2014

(a) The organisation shall provide an exposition for use by the organisation describing the organisation and its procedures and containing the following information:

1. a statement signed by the accountable manager confirming that the maintenance training organisation exposition and any associated manuals define the maintenance training organisation's compliance with this Part and shall be complied with at all times.
2. the title(s) and name(s) of the person(s) nominated in accordance with point 147.A.105(b).
3. the duties and responsibilities of the person(s) specified in point 2, including matters on which they may deal directly with the competent authority on behalf of the maintenance training organisation.
4. a maintenance training organisation chart showing associated chains of responsibility of the person(s) specified in point (a)(2).
5. a list of the training instructors, knowledge examiners and practical assessors.
6. a general description of the training and examination facilities located at each address specified in the maintenance training organisation's approval certificate, and if appropriate any other location, as required by point 147.A.145(b).
7. a list of the maintenance training courses which form the extent of the approval.
8. the maintenance training organisation's exposition amendment procedure.
9. the maintenance training organisation's procedures, as required by point 147.A.130(a).
10. the maintenance training organisation's control procedure, as required by 147.A.145(c), when authorised to conduct training, examination and assessments in locations different from those specified in point 147.A.145(b).
11. a list of the locations pursuant to point 147.A.145(b).
12. a list of organisations, if appropriate, as specified in point 147.A.145(d).

(b) The maintenance training organisation's exposition and any subsequent amendments shall be approved by the competent authority.

(c) Notwithstanding point (b) minor amendments to the exposition may be approved through an exposition procedure (hereinafter called indirect approval).

147.A.145 Privileges of the maintenance training organisation

Regulation (EU) 2018/1142

(a) The maintenance training organisation may carry out the following as permitted by and in accordance with the maintenance training organisation exposition:

(i) basic training courses to the Annex III (Part-66) syllabus, or part thereof;

(ii) aircraft type/task training courses in accordance with Annex III (Part-66);

(iii) the examination of students who attended the basic or aircraft type training course at the maintenance training organisation;

(iv) the examination of students who did not attend the aircraft type training course at the maintenance training organisation;

(v) the examination of students who did not attend the basic training course at the maintenance training organisation, provided that:

(1) the examination is conducted at one of the locations identified in the approval certificate, or

(2) if performed at locations not identified in the approval certificate, as permitted by points (b) and (c), either

— the examination is provided through a European Central Question Bank (ECQB), or

— in the absence of an ECQB, the competent authority selects the questions for the examination;

(vi) the issue of certificates in accordance with Appendix III following successful completion of the approved basic or aircraft type training courses and examinations specified in points (a)(i), (a)(ii), (a)(iii), (a)(iv) and (a)(v), as applicable.

(b) Training, knowledge examinations and practical assessments may only be carried out at the locations identified in the approval certificate and/or at any location specified in the maintenance training organisation exposition.

(c) By derogation to point (b), the maintenance training organisation may only conduct training, knowledge examinations and practical assessments in locations different from the point (b) locations in accordance with a control procedure specified in the maintenance training organisation exposition. Such locations need not be listed in the maintenance training organisation exposition.

(d) 1. The maintenance training organisation may subcontract the conduct of basic theoretical training, type training and related examinations to a non maintenance training organisation only when under the control of the maintenance training organisation quality system.

2. The subcontracting of basic theoretical training and examination is limited to Annex III (Part-66), Appendix I, Modules 1, 2, 3, 4, 5, 6, 8, 9 and 10.

3. The subcontracting of type training and examination is limited to powerplant and avionic systems.

(e) An organisation may not be approved to conduct examinations unless approved to conduct the corresponding training.

(f) By derogation from point (e), an organisation approved to provide basic knowledge training or type training may also be approved to provide type examination in the cases where type training is not required.

147.A.150 Changes to the maintenance training organisation

Regulation (EU) No 1321/2014

(a) The maintenance training organisation shall notify the competent authority of any proposed changes to the organisation that affect the approval before any such change takes place, in order to enable the competent authority to determine continued compliance with this Part and to amend if necessary the maintenance training organisation approval certificate.

(b) The competent authority may prescribe the conditions under which the maintenance training organisation may operate during such changes unless the competent authority determines that the maintenance training organisation approval must be suspended.

(c) Failure to inform the competent authority of such changes may result in suspension or revocation of the maintenance training organisation approval certificate backdated to the actual date of the changes.

147.A.155 Continued validity

Regulation (EU) No 1321/2014

(a) An approval shall be issued for an unlimited duration. It shall remain valid subject to:

1. the organisation remaining in compliance with this Part, in accordance with the provisions related to the handling of findings as specified in point 147.B.130; and
2. the competent authority being granted access to the organisation to determine continued compliance with this Annex (Part-147); and
3. the certificate not being surrendered or revoked.

(b) Upon surrender or revocation, the approval shall be returned to the competent authority.

147.A.160 Findings

Regulation (EU) No 1321/2014

(a) A level 1 finding is one or more of the following:

1. any significant non-compliance with the examination process which would invalidate the examination(s),
2. failure to give the competent authority access to the organisation's facilities during normal operating hours after two written requests,
3. the lack of an accountable manager,
4. a significant non-compliance with the training process.

(b) A level 2 finding is any non-compliance with the training process other than level 1 findings.

(c) After receipt of notification of findings according to point 147.B.130, the holder of the maintenance training organisation approval shall define a corrective action plan and demonstrate corrective action to the satisfaction of the competent authority within a period agreed with this authority.

SUBPART C — APPROVED BASIC TRAINING COURSE

147.A.200 The approved basic training course

Regulation (EU) No 1321/2014

(a) The approved basic training course shall consist of knowledge training, knowledge examination, practical training and a practical assessment.

(b) The knowledge training element shall cover the subject matter for a category or subcategory aircraft maintenance licence as specified in Annex III (Part-66).

(c) The knowledge examination element shall cover a representative cross section of subject matter from the point (b) training element.

(d) The practical training element shall cover the practical use of common tooling/equipment, the disassembly/assembly of a representative selection of aircraft parts and the participation in representative maintenance activities being carried out relevant to the particular Part-66 complete module.

(e) The practical assessment element shall cover the practical training and determine whether the student is competent at using tools and equipment and working in accordance with maintenance manuals.

(f) The duration of basic training courses shall be in accordance with Appendix I.

(g) The duration of conversion courses between (sub)categories shall be determined through an assessment of the basic training syllabus and the related practical training needs.

147.A.205 Basic knowledge examinations

Regulation (EU) No 1321/2014

Basic knowledge examinations shall:

(a) be in accordance with the standard defined in Annex III (Part-66).

(b) be conducted without the use of training notes.

(c) cover a representative cross section of subjects from the particular module of training completed in accordance with Annex III (Part-66).

147.A.210 Basic practical assessment

Regulation (EU) No 1321/2014

(a) Basic practical assessments shall be carried out during the basic maintenance training course by the nominated practical assessors at the completion of each visit period to the practical workshops/maintenance facility.

(b) The student shall achieve an assessed pass with respect to point 147.A.200(e).

SUBPART D — AIRCRAFT TYPE/TASK TRAINING

147.A.300 Aircraft type/task training

Regulation (EU) No 1321/2014

A maintenance training organisation shall be approved to carry out Annex III (Part-66) aircraft type and/or task training subject to compliance with the standard specified in point 66.A.45.

147.A.305 Aircraft type examinations and task assessments

Regulation (EU) No 1321/2014

A maintenance training organisation approved in accordance with point 147.A.300 to conduct aircraft type training shall conduct the aircraft type examinations or aircraft task assessments specified in Annex III (Part-66) subject to compliance with the aircraft type and/or task standard specified in point 66.A.45 of Annex III (Part-66).

SECTION B — PROCEDURES FOR COMPETENT AUTHORITIES

SUBPART A — GENERAL

147.B.05 Scope

Regulation (EU) No 1321/2014

This section establishes the administrative requirements to be followed by the competent authorities in charge of the application and the enforcement of Section A of this Part.

147.B.10 Competent Authority

Regulation (EU) No 1321/2014

(a) General

The Member State shall designate a competent authority with allocated responsibilities for the issuance, continuation, change, suspension or revocation of certificates under this Annex (Part-147). This competent authority shall establish documented procedures and an organisational structure.

(b) Resources

The competent authority shall be appropriately staffed to carry out the requirements of this Part.

(c) Procedures

The competent authority shall establish procedures detailing how compliance with this Annex (Part-147) is accomplished.

The procedures shall be reviewed and amended to ensure continued compliance.

(d) Qualification and training

All staff involved in approvals related to this Annex must:

1. Be appropriately qualified and have all necessary knowledge, experience and training to perform their allocated tasks.
2. Have received training and continuation training on Annex III (Part-66) and Annex IV (Part-147) where relevant, including its intended meaning and standard.

147.B.20 Record-keeping

Regulation (EU) No 1321/2014

(a) The competent authority shall establish a system of record-keeping that allows adequate traceability of the process to issue, renew, continue, vary, suspend or revoke each approval.

(b) The records for the oversight of maintenance training organisations shall include as a minimum:

1. the application for an organisation approval.
2. the organisation approval certificate including any changes.
3. a copy of the audit program listing the dates when audits are due and when audits were carried out.

4. continued oversight records including all audit records.
5. copies of all relevant correspondence.
6. details of any exemption and enforcement actions.
7. any report from other competent authorities relating to the oversight of the organisation.
8. organisation exposition and amendments.

(c) The minimum retention period for the point (b) records shall be four years.

147.B.25 Exemptions

Regulation (EU) 2019/1383

(a) The competent authority may exempt a State education department school from:

1. being an organisation as specified in point 147.A.10.
2. having an accountable manager, subject to the limitation that the department appoint a senior person to manage the training organisation and such person has a budget sufficient to operate the organisation to the standard of this Annex (Part-147).
3. having recourse to the independent audit part of a quality system subject to the department operating an independent schools inspectorate to audit the maintenance training organisation at the frequency required by this Part.

(b) All exemptions granted in accordance with Article 71(1) of Regulation (EU) 2018/1139 shall be recorded and retained by the competent authority.

SUBPART B — ISSUE OF AN APPROVAL

Regulation (EU) No 1321/2014

This Subpart provides the requirements to issue or vary the maintenance training organisation approval.

147.B.110 Procedure for approval and changes to the approval

Regulation (EU) No 1321/2014

(a) Upon receipt of an application, the competent authority shall:

1. review the maintenance training organisation exposition; and
2. verify the organisation's compliance with the requirement of Annex IV (Part-147).

(b) All findings identified shall be recorded and confirmed in writing to the applicant.

(c) All findings shall be closed in accordance with point 147.B.130 before the approval is issued.

(d) The reference number shall be included on the approval certificate in a manner specified by the Agency.

147.B.120 Continued validity procedure

Regulation (EU) No 1321/2014

(a) Each organisation shall be completely audited for compliance with this Annex (Part-147) at periods not exceeding 24 months. This shall include the monitoring of at least one training course and one examination performed by the maintenance training organisation.

(b) Findings shall be processed in accordance with point 147.B.130.

147.B.125 Maintenance training organisation approval certificate

Regulation (EU) No 1321/2014

The maintenance training organisation approval certificate format shall be as detailed in Appendix II.

147.B.130 Findings

Regulation (EU) No 1321/2014

(a) Failure to complete the rectification of any level 1 finding within three days of written notification shall entail revocation, suspension or limitation by the competent authority, of the maintenance training organisation approval in whole or in part.

(b) Action shall be taken by the competent authority to revoke, limit or suspend in whole or part the approval in case of failure to comply within the time scale granted by the competent authority in the case of a level 2 finding.

SUBPART C — REVOCATION, SUSPENSION AND LIMITATION OF THE MAINTENANCE TRAINING ORGANISATION APPROVAL

147.B.200 Revocation, suspension and limitation of the maintenance training organisation approval

Regulation (EU) No 1321/2014

The competent authority shall:

(a) suspend an approval on reasonable grounds in the case of potential safety threat; or

(b) suspend, revoke or limit an approval pursuant to 147.B.130.

APPENDICES TO ANNEX IV (PART-147)

Appendix I — Basic training course duration

Regulation (EU) 2018/1142

The minimum duration of a complete basic training course shall be as follows:

Basic Course	Duration (in hours)	Theoretical Training Ratio (in %)
A1	800	30–35
A2	650	30–35
A3	800	30–35
A4	800	30–35
B1.1	2 400	50–60
B1.2	2 000	50–60
B1.3	2 400	50–60
B1.4	2 400	50–60
B2	2 400	50–60
B2L	1 500 (*)	50–60
B3	1 000	50–60

(*) This number of hours shall be increased as follows, depending on the additional system ratings selected:

System Rating	Duration (in hours)	Theoretical Training Ratio (in %)
COM/NAV	90	50–60
INSTRUMENTS	55	
AUTOFLIGHT	80	
SURVEILLANCE	40	
AIRFRAME SYSTEMS	100	

Appendix II — Maintenance Training Organisation Approval — EASA Form 11

Regulation (EU) 2020/270

[MEMBER STATE (*)]
A Member of the European Union (**)

MAINTENANCE TRAINING AND EXAMINATION ORGANISATION APPROVAL CERTIFICATE

Reference: [MEMBER STATE CODE*].147.[XXXX]

Pursuant to Regulation (EU) 2018/1139 of the European Parliament and of the Council and to Commission Regulation (EU) No 1321/2014, for the time being in force and subject to the condition specified below, the [COMPETENT AUTHORITY OF THE MEMBER STATE (*)] hereby certifies:

[COMPANY NAME AND ADDRESS]

as a maintenance training organisation in compliance with Section A of Annex IV (Part-147) of Regulation (EU) No 1321/2014, approved to provide training and conduct examinations listed in the approval schedule attached and to issue related certificates of recognition to students using the above references.

CONDITIONS:

1. This approval is limited to what is specified in the scope of work section of the approved maintenance training organisation exposition as referred to in Section A of Annex IV (Part-147); and
2. this approval requires compliance with the procedures specified in the approved maintenance training organisation exposition; and
3. this approval is valid whilst the approved maintenance training organisation remains in compliance with Annex IV (Part-147) of Regulation (EU) No 1321/2014; and
4. subject to compliance with the foregoing conditions, this approval shall remain valid for an unlimited duration unless the approval has previously been surrendered, superseded, suspended or revoked.

Date of original issue: .....

Date of this revision: .....

Revision No: .....

Signed: .....

For the competent authority: [COMPETENT AUTHORITY OF THE MEMBER STATE (*)]

EASA Form 11 Issue 6

(*) Or EASA if EASA is the competent authority

(**) Delete for non-EU Member States or EASA.

MAINTENANCE TRAINING AND EXAMINATION ORGANISATION APPROVAL SCHEDULE

Reference: [MEMBER STATE CODE (*)].147.[XXXX]

Organisation: [COMPANY NAME AND ADDRESS]

CLASS	LICENCE CATEGORY	LIMITATION	
BASIC (**)	B1 (**)	TB1.1 (**)	AEROPLANES TURBINE (**)
		TB1.2 (**)	AEROPLANES PISTON (**)
		TB1.3 (**)	HELICOPTERS TURBINE (**)
		TB1.4 (**)	HELICOPTERS PISTON (**)
	B2 (**)/(****)	TB2 (**)	AVIONICS (**)
	B2L (**)	TB2L (**)	AVIONICS (indicate system rating) (**)
	B3 (**)	TB3 (**)	PISTON ENGINE NON-PRESSURISED AERO-PLANES 2 000 KG MTOM AND BELOW (**)
	A (**)	TA.1 (**)	AEROPLANES TURBINE (**)
		TA.2 (**)	AEROPLANES PISTON (**)
		TA.3 (**)	HELICOPTERS TURBINE (**)
		TA.4 (**)	HELICOPTERS PISTON (**)
	L (**) (Only examination)	TL (**)	QUOTE THE SPECIFIC LICENCE SUB-CATEGORY (**)
TYPE/TASK (**)	C (**)	T4 (**)	[QUOTE AIRCRAFT TYPE] (***)
	B1 (**)	T1 (**)	[QUOTE AIRCRAFT TYPE] (***)
	B2 (**)	T2 (**)	[QUOTE AIRCRAFT TYPE] (***)
	A (**)	T3 (**)	[QUOTE AIRCRAFT TYPE] (***)

This approval schedule is limited to those trainings and examinations specified in the scope of work section of the approved maintenance training organisation exposition.

Maintenance training organisation exposition reference: .....

Date of original issue: .....

Date of last revision approved: ..... Revision No: .....

Signed: .....

For the competent authority:[COMPETENT AUTHORITY OF THE MEMBER STATE (*)]

EASA Form 11 Issue 6

(*) or EASA if EASA is the competent authority.

(**) Delete as appropriate if the organisation is not approved.

(***) Complete with the appropriate rating and limitation.

(****) The approval for the Basic B2 course/examination includes approval for B2L course/examination for all system ratings.

Appendix III — Certificates of Recognition referred to in Annex IV (Part-147) — EASA Forms 148 and 149

1. Basic Training and Examination

Regulation (EU) 2019/1383

The basic training certificate template shall be used for recognition of completion of either the basic training or the basic examination, or both the basic training and basic training examinations.

The training certificate shall clearly identify each individual module examination by date passed together with the corresponding version of Appendix I to Annex III (Part-66).

Page 1 of 1

CERTIFICATE OF RECOGNITION

Reference: [MEMBER STATE CODE (*)].147.[XXXX].[YYYYY]

The certificate of recognition is issued to:

[NAME]

[DATE and PLACE OF BIRTH]

By:

[COMPANY NAME AND ADDRESS]

Reference: [MEMBER STATE CODE (*)].147.[XXXX]

a maintenance training organisation approved to provide training and conduct examinations within its approval schedule and in accordance with Annex IV (Part-147) of Regulation (EU) No 1321/2014.

This certificate confirms that the above named person either successfully passed the approved basic training course (**) or the basic examination (**) stated below in compliance with Regulation (EU) 2018/1139 of the European Parliament and of the Council and to Commission Regulation (EU) No 1321/2014 for the time being in force.

[BASIC TRAINING COURSE (**)] or/and [BASIC EXAMINATION (**)]

[LIST OF PART-66 MODULES/DATE OF EXAMINATION PASSED]

Date: ……

Signed: ……

For: [COMPANY NAME]

EASA Form 148 Issue 3

2. Type Training and Examination

Regulation (EU) 2019/1383

The type training certificate template shall be used for recognition of completion of either the theoretical elements or the practical elements, or both the theoretical and practical elements of the type rating training course.

The certificate shall indicate the airframe/engine combination for which the training was imparted.

The appropriate references shall be deleted as applicable and the course type box shall detail whether only the theoretical elements or the practical elements were covered or whether theoretical and practical elements were covered.

The training certificate shall clearly identify if the course is a complete course or a partial course (such as an airframe or powerplant or avionic/electrical course) or a difference course based upon the applicant previous experience, for instance A340 (CFM) course for A320 technicians. If the course is not a complete one, the certificate shall identify whether the interface areas have been covered or not.

CERTIFICATE OF RECOGNITION

Reference: [MEMBER STATE CODE (*)].147.[XXXX].[YYYY]

The certificate of recognition is issued to:

[NAME]

[DATE and PLACE OF BIRTH]

By:

[COMPANY NAME AND ADDRESS]

Reference: [MEMBER STATE CODE (*)].147.[XXXX]

a maintenance training organisation approved to provide training and conduct examinations within its approval schedule and in accordance with Annex IV (Part-147) of Regulation (EU) No 1321/2014.

This certificate confirms that the above named person either successfully passed the theoretical (**) and/or the practical elements (**) of the approved type training course stated below and the related examinations in compliance with Regulation (EU) 2018/1139 of the European Parliament and of the Council and to Commission Regulation (EU) No 1321/2014 for the time being in force.

[AIRCRAFT TYPE TRAINING COURSE (**)]

[START and END DATES]

[SPECIFY THEORETICAL ELEMENTS AND/OR PRACTICAL ELEMENTS]

or

[AIRCRAFT TYPE EXAMINATION (**)]

[END DATE]

Date: …… ……..

Signed: …… ……..

For: [COMPANY NAME]

EASA Form 149 Issue 4

(*) Or EASA if EASA is the competent authority

(**) Delete as appropriate

ANNEX VA (PART-T)

GENERAL

T.1 Competent authority

Regulation (EU) 2015/1536

For the purpose of this Part, the competent authority for the oversight of the aircraft and the organisations shall be the authority designated by the Member State that has issued the Air Operator Certificate to the operator.

SECTION A — TECHNICAL REQUIREMENTS

SUBPART A — GENERAL

T.A.101 Scope

Regulation (EU) 2019/1383

This section establishes requirements to ensure that continuing airworthiness of aircraft referred to in point (b) of Article 1 is maintained in compliance with the essential requirements of Annex V to Regulation (EU) No 2018/1139 of the European Parliament and of the Council.

It also specifies the conditions to be met by the persons and organisations responsible for management of the continuing airworthiness and maintenance of such aircraft.

SUBPART B — REQUIREMENTS

T.A.201 Responsibilities

Regulation (EU) 2018/1142

1. (a) The operator is responsible for the airworthiness of the aircraft and it shall ensure that it is not operated unless the aircraft has a type certificate issued or validated by the Agency;

(b) the aircraft is in an airworthy condition;

(c) the aircraft holds a valid certificate of airworthiness issued in accordance with ICAO Annex 8;

(d) the maintenance of the aircraft is performed in accordance with a maintenance programme which shall comply with the requirements of the State of Registry and the applicable requirements of ICAO Annex 6.

(e) any defect or damage affecting the safe operation of the aircraft is rectified to a standard acceptable to the State of Registry;

(f) the aircraft complies with any applicable:

(i) airworthiness directive or continued airworthiness requirement issued or adopted by the State of Registry; and

(ii) mandatory safety information issued by the Agency, including airworthiness directives;

(g) a release to service is issued to the aircraft after maintenance by qualified organisations in compliance with the State of Registry requirements. The signed release to service shall contain, in particular, the basic details of the maintenance carried out.

(h) the aircraft is inspected, through a pre-flight inspection, before each flight

(i) all modifications and repairs comply with the airworthiness requirements established by the State of Registry

(j) the following aircraft records are available until the information contained has been superseded by new information equivalent in scope and detail but not less than 24 months:

(1) the total time in service (hours, cycles and calendar time, as appropriate) of the aircraft and all life-limited components;

(2) current status of compliance with T.A.201(1)(f) requirements;

(3) current status of compliance with the maintenance programme;

(4) current status of modifications and repairs together with appropriate details and substantiating data to demonstrate that they comply with the requirements established by the State of Registry.

2. The tasks specified in T.A.201(1) shall be controlled by the operator's continuing airworthiness management organisation. For this purpose the organisation shall comply with the additional requirements of T.A. Subpart G

3. The continuing airworthiness management organisation referred to in point (2) shall ensure that the maintenance and release of the aircraft are performed by a maintenance organisation meeting the requirements of Subpart E of this Annex (Part-T). For this purpose, when the continuing airworthiness management organisation does not meet those requirements itself, it shall establish a contract with a maintenance organisation meeting those requirements.

SUBPART E — MAINTENANCE ORGANISATION

T.A.501 Maintenance Organisation

Regulation (EU) 2018/1142

The continuing airworthiness management organisation shall ensure that the aircraft and its components are maintained by organisations complying with the following requirements:

(1) The organisation holds a maintenance organisation approval issued or acceptable to the State of Registry.

(2) The scope of approval of the organisation includes the appropriate aircraft and/or component capability.

(3) The organisation has established an occurrence reporting system which ensures that any identified condition of an aircraft or component which endangers the flight safety is reported to the operator, the competent authority of the operator, the organisation responsible for the type design or supplemental type design and the continuing airworthiness management organisation.

(4) The organisation has established an organisation's manual providing a description of all the procedures of the organisation.

SUBPART G — ADDITIONAL REQUIREMENTS FOR CONTINUING AIRWORTHINESS MANAGEMENT ORGANISATIONS APPROVED PURSUANT TO ANNEX Vc (PART-CAMO)

T.A.701 Scope

Regulation (EU) 2019/1383

This Subpart establishes the requirements to be met, in addition to the requirements of Annex Vc (Part-CAMO), by an organisation approved in accordance with that Annex, for it to be entitled to control the carrying out of the tasks specified in point T.A.201.

T.A.704 Continuing airworthiness management exposition

Regulation (EU) 2019/1383

In addition to the requirements provided for in point CAMO.A.300, the exposition shall contain procedures specifying how the organisation ensures compliance with this Annex.

T.A.706 Personnel requirements

Regulation (EU) 2019/1383

In addition to the requirements provided for in point CAMO.A.305, the personnel referred to in points (a)(3) to (a)(5) and (b)(2) of point CAMO.A.305 shall have adequate knowledge of the applicable laws of the third countries where the aircraft is registered.

T.A.708 Continuing airworthiness management

Regulation (EU) 2019/1383

Notwithstanding point CAMO.A.315, for aircraft for which the continuing airworthiness is managed in accordance with the requirements of this Annex the organisation shall:

(a) ensure that the aircraft is taken to a maintenance organisation whenever necessary;

(b) ensure that all maintenance is carried out in accordance with the maintenance programme;

(c) ensure the application of the T.A.201(1)(f) mandatory information;

(d) ensure that all defects discovered during scheduled maintenance or reported are corrected by the maintenance organisation in accordance with the maintenance data acceptable to the State of Registry;

(e) coordinate scheduled maintenance, the application of the T.A.201(1)(f) mandatory information, the replacement of life-limited parts, and component inspection to ensure the work is carried out properly;

(f) manage and archive the continuing airworthiness records required by T.A.201(1)(j);

(g) ensure that modifications and repairs are approved in accordance with the requirements of the State of Registry.

T.A.709 Documentation

Regulation (EU) 2019/1383

Notwithstanding point CAMO.A.325, for every aircraft for which the continuing airworthiness is managed in accordance with the requirements of this Annex, the organisation shall hold and use applicable maintenance data acceptable to the State of registry of the aircraft.

T.A.711 Privileges

Regulation (EU) 2019/1383

An organisation approved in accordance with Annex Vc (Part-CAMO) may perform the tasks specified in point T.A.708 for the aircraft included in its air operator certificate, provided that the organisation has established procedures, approved by the competent authority, in order to ensure compliance with the requirements of this Annex.

T.A.712 Management system

Regulation (EU) 2019/1383

In addition to the requirements of point CAMO.A.200, the organisation shall ensure its compliance with the requirements of this Annex.

T.A.714 Record-keeping

Regulation (EU) 2019/1383

In addition to the requirements of point (a) of point CAMO.A.220, the organisation shall keep the records referred to in point (1)(j) of point T.A.201.

T.A.715 Continued validity

Regulation (EU) 2019/1383

For the approval of an organisation managing the continuing-airworthiness to remain valid, the following requirements shall be met in addition to the requirements of point CAMO.A.135:

(a) the organisation complies with the applicable requirements of this Annex; and

(b) the organisation ensures that any person authorised by the competent authority is granted access to any of its facilities, aircraft or documents related to its activities, including any subcontracted activities, to determine compliance with this Annex.

T.A.716 Findings

Regulation (EU) 2019/1383

(a) After having received a notification of findings in accordance with point T.B.705, the organisation shall do the following:

  (1) identify the root cause or causes of, and contributing factors to the finding of non-compliance;

  (2) prepare, adopt and implement a corrective action plan;

  (3) demonstrate to the satisfaction of the competent authority that the necessary corrective action to address the finding has been taken.

(b) The actions referred to in points (1) to (3) of paragraph (a) shall be performed within the time period set by the competent authority in accordance with point T.B.705.

SECTION B — ADDITIONAL PROCEDURES FOR COMPETENT AUTHORITIES

SUBPART A — GENERAL

T.B.101 Scope

Regulation (EU) 2015/1536

This Section establishes the administrative requirements to be followed by the competent authorities in charge of the application and enforcement of Section A of this Part-T.

T.B.102 Competent authority

Regulation (EU) 2015/1536

1. General

   A Member State shall designate a competent authority with allocated responsibilities as referred to in T.1. This competent authority shall establish documented procedures and an organisational structure.

2. Resources

   The number of staff shall be appropriate to carry out the requirements as detailed in this Section

3. Qualification and training

   All staff involved in Part-T activities shall be appropriately qualified and have the appropriate knowledge, experience, initial training and continuation training to perform their allocated tasks.

4. Procedures

   The competent authority shall establish procedures detailing how compliance with this Part is accomplished.

T.B.104 Record-keeping

Regulation (EU) 2015/1536

1. The requirements of M.B.104(a), (b) and (c) of Annex I shall apply.
2. The minimum records for the oversight of each aircraft shall include, at least, a copy of:
   a) the aircraft's certificate of airworthiness,
   b) all relevant correspondence relating to the aircraft,
   c) reports from any inspection and survey performed to the aircraft,
   d) details of any exemption and enforcement action(s).
3. All records specified in T.B.104 shall be made available, upon request, to another Member State, the Agency or the State of Registry.
4. The records specified in (2) shall be retained until 4 years after the end of the dry lease-in period.

T.B.105 Mutual exchange of information

Regulation (EU) 2015/1536

The requirements of M.B.105 of Annex I shall apply.

SUBPART B — ACCOUNTABILITY

T.B.201 Responsibilities

Regulation (EU) 2015/1536

1. The competent authority as specified in T.1 is responsible for conducting inspections and investigations, including aircraft surveys, in order to verify that the requirements of this Part are complied with.
2. The competent authority shall perform inspections and investigations before the approval of the dry lease in agreement in accordance with ARO.OPS.110 (a)(1), to verify that the requirements of T.A.201 are then complied with.
3. The competent authority shall ensure coordination with the State of Registry as necessary to exercise the oversight responsibilities of the aircraft contained in this Annex Va (Part-T).

T.B.202 Findings

Regulation (EU) 2015/1536

1. A level 1 finding is any significant non-compliance with the Part-T requirements which lowers the safety standard and hazards seriously the flight safety.
2. A level 2 finding is any non-compliance with the Part-T requirements which could lower the safety standard and possibly hazard the flight safety.
3. When a finding is detected during inspections, investigations, aircraft surveys or by other means, the competent authority shall:
   a) take measures as necessary, such as the grounding of the aircraft, to prevent the continuation of the non-compliance,
   b) require corrective actions appropriate to the nature of the finding to be taken.
4. For level 1 findings, the competent authority shall require appropriate corrective action to be taken before further flight and notify the State of Registry.

SUBPART G — ADDITIONAL REQUIREMENTS FOR CONTINUING AIRWORTHINESS MANAGEMENT ORGANISATIONS APPROVED PURSUANT TO ANNEX Vc (PART-CAMO)

T.B.702 Initial certification procedure

Regulation (EU) 2019/1383

In addition to the requirements of point CAMO.B.310, the competent authority shall verify and establish that those procedures comply with the requirements of this Annex and it shall verify that the organisation complies with the requirements of this Annex.

T.B.704 Continuing oversight

Regulation (EU) 2019/1383

In addition to the requirements of point CAMO.B.305, during each oversight planning cycle, the competent authority shall survey a relevant sample of aircraft referred to in point (b) of Article 1 managed by the organisation.

T.B.705 Findings and corrective actions

Regulation (EU) 2019/1383

For organisations managing the continuing airworthiness of aircraft referred to in point (b) of Article 1, the competent authority shall apply the requirements contained in point CAMO.B.350 when verifying if the organisation complies with the requirements of this Annex.

ANNEX VB (PART-ML)

GENERAL

ML.1

Regulation (EU) 2019/1383

(a) In accordance with paragraph 2 of Article 3, this Annex (Part-ML) applies to the following other than complex motor-powered aircraft not listed in the air operator certificate of an air carrier licensed in accordance with Regulation (EC) No 1008/2008:

(1) aeroplanes of 2 730 kg maximum take-off mass (MTOM) or less;

(2) rotorcraft of 1 200 kg MTOM or less, certified for a maximum of up to 4 occupants;

(3) other ELA2 aircraft.

(b) For the purpose of this Annex, the competent authority shall be the authority designated by the Member State of registry of the aircraft.

(c) For the purpose of this Annex, the following definitions shall apply:

(1) 'independent certifying staff' means certifying staff who does not work on behalf of an approved maintenance organisation and who complies with, alternatively:

(i) the requirements of Annex III (Part-66);

(ii) for aircraft to which Annex III (Part-66) does not apply, the certifying staff requirements in force in the Member State of registry of the aircraft;

(2) 'maintenance organisation' means an organisation holding an approval issued in accordance with, alternatively :

(i) Subpart F of Annex I (Part-M);

(ii) Section A of Annex II (Part-145);

(iii) Section A of Annex Vd (Part-CAO).

(3) 'owner' means the person responsible for the continuing airworthiness of the aircraft, including, alternatively:

(i) the registered owner of the aircraft;

(ii) the lessee in the case of a leasing contract;

(iii) the operator.

SECTION A — TECHNICAL REQUIREMENTS

SUBPART A — GENERAL

ML.A.101 Scope

Regulation (EU) 2019/1383

This Section establishes the measures to be taken in order to ensure that the aircraft is airworthy. It also specifies the conditions to be met by the persons or organisations involved in the activities related to the airworthiness of the aircraft.

SUBPART B — ACCOUNTABILITY

ML.A.201 Responsibilities

Regulation (EU) 2020/270

(a) The owner of the aircraft shall be responsible for the continuing airworthiness of the aircraft and shall ensure that no flight takes place unless all of the following requirements are met:

(1) the aircraft is maintained in an airworthy condition;

(2) any operational and emergency equipment fitted is correctly installed and serviceable or clearly identified as unserviceable;

(3) the airworthiness certificate is valid;

(4) the maintenance of the aircraft is performed in accordance with the Aircraft Maintenance Program ('AMP') specified in point ML.A.302.

(b) By derogation from point (a), where the aircraft is leased, the responsibilities set out in point (a) shall apply to the lessee, if the lessee is identified either in the registration document of the aircraft or in the leasing contract.

(c) Any person or organisation performing maintenance of aircraft and components shall be responsible for the maintenance tasks being performed.

(d) The pilot-in-command of the aircraft shall be responsible for the satisfactory accomplishment of the preflight inspection. That inspection shall be carried out by the pilot or another qualified person but need not be carried out by an approved maintenance organisation or by certifying staff.

(e) For aircraft operated by commercial Approved Training Organisations ('ATO') and commercial Declared Training Organisations ('DTO') referred to in Article 10a of Regulation (EU) No 1178/2011 or not operated in accordance with Annex VII to Regulation (EU) No 965/2012 (Part-NCO) or operated in accordance with Subpart-ADD of Annex II (Part-BOP) to Regulation (EU) 2018/395 or Subpart-DEC of Annex II (Part-SAO) to Regulation (EU) 2018/1976[1], the operator shall:

(1) be approved as a CAMO or as a CAO for the management of the continuing airworthiness of its aircraft in accordance with Annex Vc (Part-CAMO), Subpart G of Annex I (Part-M) or Annex Vd (Part-CAO), or contract such an organisation using the contract set out in Appendix I to this Annex;

(2) ensure that all maintenance is performed by maintenance organisations approved in accordance with point (c)(2) of point ML.1.;

(3) ensure that the requirements of point (a) are satisfied.

(f) For aircraft not included in point (e), in order to satisfy the requirements of point (a), the owner of the aircraft may contract the tasks associated with continuing airworthiness management to an organisation approved as a CAMO or CAO in accordance with Annex Vc (Part-CAMO), Subpart G of Annex I (Part-M) or Annex Vd (Part-CAO). In that case, the contracted organisation shall assume responsibility for the proper performance of those tasks and a written contract shall be concluded in accordance with Appendix I to this Annex. If the owner does not contract such an

[1] Commission Implementing Regulation (EU) 2018/1976 of 14 December 2018 laying down detailed rules for the operation of sailplanes pursuant to Regulation (EU) 2018/1139 of the European Parliament and of the Council (OJ L326, 20.12.2018, p. 64)

organisation, the owner is responsible for the proper performance of the tasks associated with the continuing airworthiness management

(g) The owner shall grant the competent authority access to the aircraft and the aircraft records, in order for the competent authority to determine whether the aircraft complies with the requirements of this Annex.

(h) In the case of an aircraft included in an air operator certificate is used for non-commercial or specialised operations under point ORO.GEN.310 of Annex III or point NCO.GEN.104 of Annex VII to Regulation (EU) No 965/2012[1], the operator shall ensure that the tasks associated with continuing airworthiness are performed by the CAMO approved in accordance with Annex Vc (Part-CAMO) or Subpart G of Annex I (Part-M) or the combined airworthiness organisation ("CAO") approved in accordance with Annex Vd (Part-CAO), whichever applicable, of the air operator certificate holder.

ML.A.202 Occurrence reporting

Regulation (EU) 2019/1383

(a) Without prejudice to the reporting requirements set out in Annex II (Part-145) and Annex Vc (Part-CAMO), any person or organisation responsible in accordance with point ML.A.201 shall report any identified condition of an aircraft or component which endangers flight safety to:

(1) the competent authority designated by the Member State of registry of the aircraft, and, when different to the Member State of registry, to the competent authority designated by the Member State of the operator;

(2) to the organisation responsible for the type design or supplemental type design.

(b) The reports referred to in point (a) shall be made in a manner determined by the competent authority referred to in point (a) and shall contain all pertinent information about the condition known to the person or organisation making the report.

(c) Where the maintenance or the airworthiness review of the aircraft is carried out on the basis of a written contract, the person or the organisation responsible for those activities shall also report any condition referred to in point (a) to the owner of the aircraft and, when different, to the CAMO or CAO concerned.

(d) The person or organisation shall submit the reports referred to in points (a) and (c) as soon as possible, but no later than 72 hours from the moment when the person or organisation identified the condition to which the report relates, unless exceptional circumstances prevent this.

[1] Commission Regulation (EU) No 965/2012 of 5 October 2012 laying down technical requirements and administrative procedures related to air operations pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (OJ L 296, 25.10.2012, p. 1).

SUBPART C — CONTINUING AIRWORTHINESS

ML.A.301 Continuing-airworthiness tasks

Regulation (EU) 2019/1383

The aircraft continuing airworthiness and the serviceability of operational and emergency equipment shall be ensured by:

(a) the accomplishment of pre-flight inspections;

(b) the rectification of any defect and damage affecting safe operation in accordance with data specified in points ML.A.304 and ML.A.401, as applicable, while taking into account the minimum equipment list ('MEL') and configuration deviation list, when they exist;

(c) the accomplishment of all maintenance in accordance with the AMP referred to in point ML.A.302;

(d) the accomplishment of any applicable:

(1) airworthiness directive ('AD');

(2) operational directive with a continuing-airworthiness impact;

(3) continuing-airworthiness requirement established by the Agency;

(4) measure required by the competent authority as an immediate reaction to a safety problem;

(e) the accomplishment of modifications and repairs in accordance with point ML.A.304;

(f) maintenance check flights, when necessary.

ML.A.302 Aircraft maintenance programme

Regulation (EU) 2019/1383

(a) The maintenance of each aircraft shall be organised in accordance with an AMP.

(b) The AMP and any subsequent amendments thereto shall be, alternatively:

(1) declared by the owner in accordance with point (c)(7) of point ML.A.302, where the continuing airworthiness of the aircraft is not managed by a CAMO or CAO;

(2) approved by the CAMO or CAO responsible for managing the continuing airworthiness of the aircraft.

The owner declaring the AMP in accordance with point (b)(1) or the organisation approving the AMP in accordance with point (b)(2) shall keep the AMP updated.

(c) The AMP:

(1) shall clearly identify the owner of the aircraft and the aircraft to which it relates, including any installed engine and propeller, as applicable;

(2) shall include, alternatively:

(a) the tasks or inspections contained in the applicable minimum inspection programme ('MIP') referred to in point (d);

(b) the instructions for continuing airworthiness ('ICA') issued by the design approval holder ('DAH');

(3) may include additional maintenance actions to those referred to in point (c)(2) or maintenance actions alternative to those referred to in point (c)(2)(b) at the proposal of the owner, CAMO or CAO, once approved or declared in accordance with point (b). Alternative maintenance actions to those referred to in point (c)(2)(b) shall not be less restrictive than those set out in the applicable MIP;

(4) shall include all the mandatory continuing airworthiness information, such as repetitive ADs, the airworthiness limitation section ('ALS') of the ICAs, and specific maintenance requirements contained in the type certificate data sheet ('TCDS');

(5) shall identify any additional maintenance tasks to be performed because of the specific aircraft type, aircraft configuration and type and specificity of operation, whereas the following elements shall be taken into consideration as a minimum:

(a) specific installed equipment and modifications of the aircraft;

(b) repairs carried out in the aircraft;

(c) life-limited components and flight-safety-critical components;

(d) maintenance recommendations, such as time between overhaul ('TBO') intervals, issued through service bulletins, service letters, and other non-mandatory service information;

(e) applicable operational directives or requirements related to the periodic inspection of certain equipment;

(f) special operational approvals;

(g) use of the aircraft and operational environment;

(6) shall identify whether the Pilot-owners are authorised to perform maintenance;

(7) when declared by the owner, shall contain a signed statement by which the owner declares that this is the AMP for the particular aircraft registration and that he is fully responsible for its content and, in particular, for any deviations from the DAH's recommendations;

(8) when approved by the CAMO or CAO, shall be signed by this organisation, which shall retain records with the justification for any deviation introduced to the DAH's recommendations;

(9) shall be reviewed at least annually in order to assess its effectiveness, and this review shall be performed, alternatively:

(a) in conjunction with the airworthiness review of the aircraft by the person who performs such an airworthiness review;

(b) by the CAMO or CAO managing the continuing airworthiness of the aircraft in those cases where the review of the AMP is not performed in conjunction with an airworthiness review.

If the review shows deficiencies of the aircraft linked with deficiencies in the content of the AMP, the AMP shall be amended accordingly. In this case the person performing the review shall inform the competent authority of the Member State of registry if he does not agree with the measures amending the AMP taken by the owner, CAMO or CAO. The competent authority shall decide which amendments to the AMP are necessary, raising the corresponding findings and, if necessary, reacting in accordance with point ML.B.304.

(d) A MIP:

(1) shall contain the following inspection intervals:

(a) for aeroplanes, touring motor gliders ('TMGs') and balloons, every annual or 100-h interval, whichever comes first, to which a tolerance of 1 month or 10 h may be applied. The next interval shall be calculated as from the time the inspection takes place;

(b) for sailplanes and powered sailplanes other than TMG, every annual interval to which a tolerance of 1 month may be applied. The next interval shall be calculated as from the time the inspection takes place;

(2) shall contain the following, as applicable to the aircraft type:

(a) servicing tasks as required by the DAH's requirements;

(b) inspection of markings;

(c) review of weighing records and weighing in accordance with Regulation (EU) No 965/2012, Regulation (EU) 2018/395 and Regulation (EU) 2018/1976;

(d) operational test of transponder (if installed);

(e) functional test of the pitot-static system;

(f) in the case of aeroplanes:

(i) operational tests for power and revolutions per minute (rpm), magnetos, fuel and oil pressure, engine temperatures;

(ii) for engines equipped with automated engine control, the published run-up procedure;

(iii) for dry-sump engines, engines with turbochargers and liquid-cooled engines, an operational test for signs of disturbed fluid circulation;

(g) inspection of the condition and attachment of the structural items, systems and components corresponding to the following areas:

(i) for aeroplanes:

airframe, cabin and cockpit, landing gear, wing and centre section, flight controls, empennage, avionics and electrics, power plant, clutches and gearboxes, propeller and miscellaneous systems, such as the ballistic rescue system;

(ii) for sailplanes and powered sailplanes:

airframe, cabin and cockpit, landing gear, wing and centre section, empennage, avionics and electrics, power plant (for powered sailplanes) and miscellaneous systems, such as removable ballast and/or drag chute and controls, as well as water ballast system;

(iii) for hot-air balloons:

envelope, burner, basket, fuel containers, equipment and instruments;

(iv) for gas balloons:

envelope, basket, equipment and instruments.

As long as this Annex does not specify an MIP for airships and rotorcraft, their AMP shall be based on the ICA issued by the DAH, as referred to in point (c)(2)(b).

(e) By derogation from points (b) and (c), a declaration by the owner or an approval by a CAMO or CAO is not required, and an AMP document is not required to be produced when the following conditions are met:

(1) all the ICA issued by the DAH are being followed without any deviations;

(2) all maintenance recommendations, such as TBO intervals, issued through service bulletins, service letters, and other non-mandatory service information, are being followed without any deviations;

(3) there are no additional maintenance tasks to be performed resulting from any of the following:

(a) specific installed equipment and modifications of the aircraft;

(b) repairs carried out in the aircraft;

(c) life-limited components and flight-safety-critical components;

(d) special operational approvals;

(e) use of the aircraft and operational environment.

(4) Pilot-owners are authorised to perform Pilot-owner maintenance.

This derogation is not applicable if the pilot-owner or, in case of jointly-owned aircraft, any of the pilot-owners is not authorised to perform Pilot-owner maintenance because this has to be specified in the declared or approved AMP.

(f) If the conditions provided for in points (e)(1) to (e)(4) are met, the AMP applicable to the aircraft shall consist of the following:

(1) the ICA issued by the DAH;

(2) the maintenance recommendations, such as TBO intervals, issued through service bulletins, service letters, and other non-mandatory service information;

(3) the mandatory continuing airworthiness information, such as repetitive ADs, the ALS of the ICA and specific maintenance requirements contained in the TCDS;

(4) the tasks due to specific operational or airspace directives or requirements in relation to particular instruments and equipment.

ML.A.303 Airworthiness directives

Regulation (EU) 2019/1383

Any applicable AD must be carried out within the requirements of that AD unless otherwise specified by the Agency.

ML.A.304 Data for modifications and repairs

Regulation (EU) 2019/1383

A person or organisation repairing an aircraft or a component shall assess any damage. Modifications and repairs shall be carried out using, as appropriate, the following data:

(a) approved by the Agency;

(b) approved by a design organisation complying with Annex I (Part-21) to Regulation (EU) No 748/2012;

(c) contained in the requirements referred to in point 21.A.90B or point 21.A.431B of Annex I (Part-21) to Regulation (EU) No 748/2012.

ML.A.305 Aircraft continuing-airworthiness record system

Regulation (EU) 2019/1383

(a) At the completion of any maintenance, the certificate of release to service (CRS) required by point ML.A.801 shall be entered in the aircraft continuing airworthiness record system. Each entry shall be made as soon as possible but not later than 30 days after the day of the completion of the maintenance task.

(b) The aircraft continuing airworthiness records shall consist of an aircraft logbook, engine logbook(s) or engine module log cards, propeller logbook(s) and log cards, for any service-life-limited component, as appropriate.

(c) The aircraft type and registration mark, the date together with the total flight time and flight cycles and landings, shall be entered in the aircraft logbooks.

(d) The aircraft continuing airworthiness records shall contain:

(1) the current status of ADs and measures mandated by the competent authority in immediate reaction to a safety problem;

(2) the current status of modifications, repairs and other DAH maintenance recommendations;

(3) the current status of compliance with the AMP;

(4) the current status of service-life-limited components;

(5) the current mass and balance report;

(6) the current list of deferred maintenance.

(e) In addition to the authorised release document, EASA Form 1, as set out in Appendix II of Annex I (Part-M), or equivalent, the following information relevant to any component installed, such as engine, propeller, engine module or service-life-limited component, shall be entered in the appropriate engine or propeller logbook, engine module or service-life-limited component log card:

(1) the identification of the component;

(2) the type, serial number and registration, as appropriate, of the aircraft, engine, propeller, engine module or service-life-limited component to which the particular component has been fitted, along with the reference to the installation and removal of the component;

(3) the date together with the component's accumulated total flight time, flight cycles, landings and calendar time, as relevant to the particular component;

(4) the current information referred to in point (d), applicable to the component.

(f) The person or organisation responsible for the management of continuing airworthiness and tasks pursuant to point ML.A.201, shall control the records as detailed in point ML.A.305 and present the records to the competent authority upon request.

(g) All entries made in the aircraft continuing airworthiness records shall be clear and accurate. When it is necessary to correct an entry, the correction shall be made in a manner that clearly shows the original entry.

(h) An owner shall ensure that a system has been established to keep the following records for the periods specified:

(1) all detailed maintenance records in respect of the aircraft and any service-life-limited component fitted thereto, until such time as the information contained therein is superseded by new information equivalent in scope and detail but no less than 36 months after the aircraft or component has been released to service;

(2) the total time in service, this is to say hours, calendar time, cycles and landings, of the aircraft and all service-life-limited components, for at least 12 months after the aircraft or component has been permanently withdrawn from service;

(3) the time in service, this is to say hours, calendar time, cycles and landings, as appropriate, since the last scheduled maintenance of the component subjected to a service life limit, at least until the component scheduled maintenance has been superseded by another scheduled maintenance of equivalent work scope and detail;

(4) the current status of compliance with the AMP at least until the scheduled maintenance of the aircraft or component has been superseded by another scheduled maintenance of equivalent work scope and detail;

(5) the current status of ADs applicable to the aircraft and components, at least 12 months after the aircraft or component has been permanently withdrawn from service;

(6) details of current modifications and repairs to the aircraft, engine(s), propeller(s) and any other component vital to flight safety, at least 12 months after they have been permanently withdrawn from service.

ML.A.307 Transfer of aircraft continuing-airworthiness records

Regulation (EU) 2019/1383

(a) When an aircraft is permanently transferred from one owner to another, the transferring owner shall ensure that the continuing airworthiness records referred to in point ML.A.305 are also transferred.

(b) When the owner contracts the continuing airworthiness management tasks to a CAMO or CAO the owner shall ensure that the continuing airworthiness records referred to in point ML.A.305 are transferred to the contracted organisation.

(c) The time periods for the retention of records set out in point (h) of point ML.A.305 shall continue to apply to the new owner, CAMO or CAO.

SUBPART D — MAINTENANCE STANDARDS

ML.A.401 Maintenance data

Regulation (EU) 2019/1383

(a) The person or organisation maintaining an aircraft shall only use applicable maintenance data during the performance of maintenance.

(b) For the purposes of this Annex, 'applicable maintenance' data means:

(1) any applicable requirement, procedure, standard or information issued by the competent authority or the Agency;

(2) any applicable AD;

(3) applicable ICA issued by type certificate holders, supplementary type certificate holders and any other organisation that publishes such data in accordance with Annex I (Part-21) to Regulation (EU) No 748/2012;

(4) any applicable data issued in accordance with point (d) of point 145.A.45.

ML.A.402 Performance of maintenance

Regulation (EU) 2019/1383

(a) Maintenance performed by approved maintenance organisations shall be in accordance with Subpart F of Annex I (Part-M), Annex II (Part-145) or Annex Vd (Part-CAO), as applicable.

(b) For maintenance not performed in accordance with point (a), the person performing maintenance shall:

(1) be qualified for the tasks performed, as required by this Annex;

(2) ensure that the area in which maintenance is carried out is well organised and clean with no dirt or contamination;

(3) use the methods, techniques, standards and instructions specified in the maintenance data referred to in point ML.A.401;

(4) use the tools, equipment and material specified in the maintenance data referred to in point ML.A.401. If necessary, tools and equipment shall be controlled and calibrated to an officially recognised standard;

(5) ensure that maintenance is performed within any environmental limitations specified in the maintenance data referred to in point ML.A.401;

(6) ensure that proper facilities are used in case of inclement weather or lengthy maintenance;

(7) ensure that the risk of multiple errors during maintenance and the risk of errors being repeated in identical maintenance tasks are minimised;

(8) ensure that an error-capturing method is implemented after the performance of any critical maintenance task;

(9) perform a general verification after completion of maintenance to ensure that the aircraft or component is clear of all tools, equipment and any extraneous parts and material, and that all access panels removed have been refitted;

(10) ensure that all maintenance performed is properly recorded and documented.

ML.A.403 Aircraft defects

Regulation (EU) 2019/1383

(a) Any aircraft defect that seriously endangers the flight safety shall be rectified before further flight.

(b) The following persons may decide that a defect does not seriously endanger flight safety, and may defer it accordingly:

(1) the pilot in respect of defects affecting non-required aircraft equipment;

(2) the pilot, when using the minimum equipment list, in respect of defects affecting required aircraft equipment — otherwise, these defects may only be deferred by authorised certifying staff;

(3) the pilot in respect of defects other than those referred to in points (b)(1) and (b)(2) if all the following conditions are met:

(i) the aircraft is operated under Annex VII to Regulation(EU) No 965/2012 (Part-NCO) or, in the case of balloons or sailplanes, not operated under Subpart-ADD of Annex II (Part-BOP) to Regulation (EU) 2018/395 or not following Subpart DEC of Annex II (Part-SAO) to Regulation (EU) 2018/1976;

(ii) the pilot defers the defect with the agreement of the aircraft owner or, if applicable, of the contracted CAMO or CAO;

(4) the appropriately qualified certifying staff in respect of other defects than those referred to in points (b)(1) and (b)(2), where the conditions referred to in point 3(i) and (ii) are not met.

(c) Any aircraft defect that does not seriously hazard flight safety shall be rectified as soon as practicable from the date on which the defect was first identified and within the limits specified in the maintenance data.

(d) Any defect not rectified before flight shall be recorded in the aircraft continuing airworthiness record system referred to in point ML.A.305 and a record shall be available to the pilot.

SUBPART E — COMPONENTS

ML.A.501 Classification and installation

Regulation (EU) 2019/1383

(a) Unless otherwise specified in Subpart F of Annex I (Part-M), Annex II (Part-145), Annex Vd (Part-CAO) to this Regulation and Annex I (Part-21) to Regulation (EU) No 748/2012, component may be fitted only if all of the following conditions are met:

(i) it is in a satisfactory condition;

(ii) has been appropriately released to service using an EASA Form 1 as set out in Appendix II of Annex I (Part-M), or equivalent;

(iii) has been marked in accordance with Subpart Q of Annex I (Part-21) to Regulation (EU) No 748/2012.

(b) Prior to the installation of a component on an aircraft, the person or approved maintenance organisation shall ensure that the particular component is eligible to be fitted if different modifications or AD configurations are applicable.

(c) Standard parts shall only be fitted to an aircraft or component when the maintenance data specifies those particular standard parts. Standard parts shall only be fitted when accompanied by evidence of conformity to the applicable standard and has appropriate traceability.

(d) Raw or consumable material shall only be used on an aircraft or component provided that:

(i) the aircraft or component manufacturer allows for the use of raw or consumable material in relevant maintenance data or as specified in Subpart F of Annex I (Part-M), Annex II (Part-145) or Annex Vd (Part-CAO).

(ii) such material meets the required material specification and has appropriate traceability.

(iii) such material is accompanied by documentation clearly relating to the particular material and containing a conformity-to-specification statement as well as the manufacturing and supplier source.

(e) In case of balloons, where different combinations of baskets, burners and fuel cylinders are possible for a particular envelope, the person installing them shall ensure that:

(1) the basket, burner and/or fuel cylinders are eligible for installation according to the TCDS or other documents referred to in the TCDS;

(2) the basket, burner and/or fuel cylinders are in serviceable condition and have the appropriate maintenance records.

ML.A.502 Component maintenance

Regulation (EU) 2019/1383

(a) Components accepted by the owner in accordance with point (c) of point 21.A.307 of Annex I (Part-21) to Regulation (EU) No 748/2012 shall be maintained by any person or organisation, subject to reacceptance by the owner under the conditions of point 21.A.307(c) of that Annex. This maintenance is not eligible for the issuance of an EASA Form 1, as set out in Appendix II of Annex I (Part-M), and shall be subject to the aircraft release requirements.

(b) Components shall be released in accordance with the following table:

	Released using an EASA Form 1 (as set out in Appendix II of Annex I (Part-M))	Released at aircraft level per point ML.A.801 (not possible to issue an EASA Form 1)
Components maintained in accordance with component maintenance data (data issued by the component manufacturer)		
Maintenance other than overhaul	Engine-rated (for engine) or component-rated (for other components) maintenance organisations	(i) Aircraft-rated maintenance organisations; and/or (ii) independent certifying staff
Overhaul of components other than engines and propellers	Component-rated maintenance organisations	Not possible
Overhaul of engines and propellers for CS-VLA, CS-22 and LSA aircraft	Engine-rated (for engine) or component-rated (for propeller) maintenance organisations	(iii) Aircraft-rated maintenance organisations; and/or (iv) independent certifying staff
Overhaul of engines and propellers for other than CS-VLA, CS-22 and LSA aircraft	Engine-rated (for engine) or component-rated (for propeller) maintenance organisations	Not possible
Components maintained in accordance with aircraft maintenance data (data issued by the aircraft manufacturer)		
All components and all types of maintenance	Engine-rated (for engine) or component-rated (for other components) maintenance organisations	— Aircraft-rated maintenance organisations; and/or — independent certifying staff

ML.A.503 Service-life-limited components

Regulation (EU) 2019/1383

(a) The term ‘service life-limited components’ contains the following components:

(1) components subject to a certified life limit after which the components should be retired, and;

(2) components subject to a service life limit after which the components shall undergo maintenance to restore their serviceability.

(b) Installed service-life-limited components shall not exceed the approved service life limit as specified in the AMP and ADs, except as provided for in point ML.A.504(c).

(c) The approved service life is expressed in calendar time, flight hours, landings or cycles, as appropriate.

(d) At the end of the approved service life limit, the component must be removed from the aircraft for maintenance, or for disposal in the case of components with a certified life limit.

ML.A.504 Control of unserviceable components

Regulation (EU) 2019/1383

(a) A component shall be considered unserviceable in any of the following circumstances:

(1) expiry of the component's service life limit as defined in the AMP;

(2) non-compliance with the applicable ADs and other continued-airworthiness requirement mandated by the Agency;

(3) absence of the necessary information to determine the airworthiness status of the component or its eligibility for installation;

(4) evidence of component defects or malfunctions;

(5) component involvement in an incident or accident likely to affect its serviceability.

(b) Unserviceable components shall be identified as one of the following:

(1) unserviceable and stored in a secure location under the control of an approved maintenance organisation or independent certifying staff until a decision is made on the future status of such components;

(2) unserviceable by the person or organisation that declared the component unserviceable, and its custody shall be transferred to the aircraft owner after documenting such transfer in aircraft maintenance record system referred to in point ML.A.305.

(c) Components which have reached their certified life limit or contain a non-repairable defect or malfunction shall be classified as unsalvageable and shall not be permitted to re-enter the component supply system unless certified life limits have been extended or a repair solution has been approved in accordance with point ML.A.304.

(d) Any person or organisation responsible pursuant to point ML.A.201 shall in the case of an unsalvageable component, as provided for in point (c), take one of the following actions:

(1) retain such component in a location referred to in point (b)(1);

(2) arrange for the component to be mutilated in a manner that ensures that it is beyond economic salvage or repair before relinquishing responsibility for such a component.

(e) Notwithstanding point (d), a person or organisation responsible pursuant to point ML.A.201 may transfer responsibility of components classified as unsalvageable without mutilation to an organisation for training or research.

SUBPART H — CERTIFICATE OF RELEASE TO SERVICE (CRS)

ML.A.801 Aircraft certificate of release to service

Regulation (EU) 2019/1383

(a) A CRS shall be issued after the required maintenance has been carried out properly on an aircraft.

(b) The CRS shall be issued, alternatively by:

(1) appropriate certifying staff on behalf of the approved maintenance organisation;

(2) independent certifying staff;

(3) the pilot- owner in compliance with point ML.A.803.

(c) By derogation from point (b), in the case of unforeseen circumstances, when an aircraft is grounded at a location where no appropriately approved maintenance organisation and no appropriate certifying staff are available, the owner may authorise any person, with no less than 3 years of appropriate maintenance experience and holding the proper qualifications, to maintain the aircraft according to the standards set out in Subpart D of this Annex and release the aircraft. The owner shall in that case:

(1) obtain and keep in the aircraft records, details of all the work carried out and of the qualifications held by the person issuing the certification;

(2) ensure that any such maintenance is rechecked and released in accordance with point (b) of point ML.A.801 at the earliest opportunity and within a period not exceeding 7 days or, in the case of aircraft operated under Annex VII to Regulation (EU) No 965/2012 (Part-NCO) or, in the case of balloons, not operated under Subpart-ADD of Annex II (Part-BOP) to Regulation (EU) 2018/395 or, in the case of sailplanes not following Subpart DEC of Annex II (Part-SAO) to Regulation (EU) 2018/1976, within a period not exceeding 30 days;

(3) notify the contracted CAMO or CAO, or the competent authority in the absence of such a contract, within 7 days of the issuance of such authorisation.

(d) In the case of a release to service in accordance with points (b)(1) or (b)(2), the certifying staff may be assisted in performing the maintenance tasks by one or more persons subject to his direct and continuous control;

(e) A CRS shall contain at least:

(1) basic details of the maintenance carried out;

(2) the date on which the maintenance was completed;

(3) the identity of the organisation or person issuing the release to service, including, alternatively:

(i) the approval reference of the maintenance organisation and certifying staff issuing the CRS;

(ii) in the case of point (b)(2), the identity and, if applicable, the licence number of the independent certifying staff issuing the CRS;

(4) the limitations to airworthiness or operations, if any.

(f) By derogation from point (a) and notwithstanding point (g), when the required maintenance cannot be completed, a CRS may be issued within the approved aircraft limitations. In that case, the CRS shall indicate that the maintenance could not be completed, as well as indicate any applicable airworthiness or operations limitations, as part of the information required in point (e)(4) .

(g) A CRS shall not be issued in the case of any known non-compliance with the requirements of this Annex which endangers flight safety.

ML.A.802 Component certificate of release to service

Regulation (EU) 2019/1383

(a) A component CRS shall be issued after the required maintenance has been carried out properly on an aircraft component in accordance with point ML.A.502.

(b) The authorised release certificate identified as EASA Form 1, as set out Appendix II of Annex I (Part-M) , constitutes the component CRS, except when such maintenance is released at aircraft level, as indicated in point ML.A.502(b).

ML.A.803 Pilot-owner authorisation

Regulation (EU) 2019/1383

(a) To qualify as a pilot-owner, the person must:

(1) hold a valid pilot licence or equivalent licence issued or validated by a Member State for the aircraft type or class rating;

(2) own the aircraft, either as a sole or joint owner; that owner must be, alternatively:

(i) one of the natural persons on the registration form;

(ii) a member of a non-profit recreational legal entity, where the legal entity is specified on the registration document as owner or operator; that member must be directly involved in the decision-making process of the legal entity and designated by that legal entity to carry out Pilot-owner maintenance.

(b) For aircraft operated under Annex VII (Part-NCO) to Regulation (EU) No 965/2012 or, in the case of balloons, not operated under Subpart-ADD of Annex II (Part-BOP) to Regulation (EU) 2018/395 or, in the case of sailplanes, not following Subpart DEC of Annex II (Part-SAO) to Regulation (EU) 2018/1976, the pilot-owner may issue a CRS after limited Pilot-owner maintenance as provided for in Appendix II to this Annex.

(c) The CRS shall be entered in the logbooks and contain basic details of the maintenance carried out, the maintenance data used, the date on which that maintenance was completed, as well as the identity, the signature and the pilot licence (or equivalent) number of the pilot-owner issuing such a certificate.

SUBPART I — AIRWORTHINESS REVIEW CERTIFICATE (ARC)

ML.A.901 Aircraft airworthiness review

Regulation (EU) 2020/270

To ensure the validity of the aircraft airworthiness certificate ('ARC'), an airworthiness review of the aircraft and its continuing airworthiness records shall be carried out periodically.

(a) An ARC is issued in accordance with Appendix IV (EASA Form 15c) to this Annex upon completion of a satisfactory airworthiness review. The ARC shall be valid for 1 year;

(b) The airworthiness review and the issuance of the ARC shall be performed in accordance with point ML.A.903, alternatively by:

(1) the competent authority;

(2) an appropriately approved CAMO or CAO;

(3) the approved maintenance organisation while performing the 100-h/annual inspection contained in the AMP;

(4) for aircraft operated under Annex VII (Part-NCO) to Regulation (EU) No 965/2012 or, in the case of balloons, not operated under Subpart-ADD of Annex II (Part-BOP) to Regulation (EU) 2018/395[1] or, in the case of sailplanes, not following Subpart DEC of Annex II (Part-SAO) to Regulation (EU) 2018/1976[2], the independent certifying staff while performing the 100-h/annual inspection contained in the AMP, when holding:

(i) a licence issued in accordance with Annex III (Part-66) rated for the corresponding aircraft or, if Annex III (Part-66) is not applicable to the particular aircraft, a national certifying-staff qualification valid for that aircraft;

(ii) an authorisation issued by, alternatively:

(A) the competent authority who issued the licence issued in accordance with Annex III (Part-66),

(B) if Annex III (Part-66)is not applicable, the competent authority responsible for the national certifying-staff qualification.

Independent certifying staff holding a licence issued in accordance with Annex III (Part-66), may perform airworthiness reviews and issue the ARC for aircraft registered in any Member State. However, independent certifying staff holding a national qualification shall only perform airworthiness reviews and issue the ARC for aircraft registered in the Member State responsible for the national qualification.

ARCs issued by independent certifying staff holding a national qualification shall not benefit from mutual recognition when transferring the aircraft to another Member State.

Whenever circumstances reveal the existence of a potential safety threat, the competent authority shall carry out the airworthiness review and issue the ARC itself.

[1] Commission Regulation (EU) 2018/395 of 13 March 2018 laying down detailed rules for the operation of balloons pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (OJ L 71, 14.3.2018, p. 10).

[2] Commission Implementing Regulation (EU) 2018/1976 of 14 December 2018 laying down detailed rules for the operation of sailplanes pursuant to Regulation (EU) 2018/1139 of the European Parliament and of the Council (OJ L 326, 20.12.2018, p. 64).

(c) The validity of an ARC may be extended maximum two consecutive times, for a period of one year each time, by an appropriately approved CAMO or CAO, subject to the following conditions:

(1) the aircraft has been continuously managed for the previous 12 months by this CAMO or CAO;

(2) the aircraft has been maintained for the previous 12 months by approved maintenance organisations; this includes pilot-owner maintenance tasks carried out and released to service either by the pilot-owner or by independent certifying staff;

(3) the CAMO or CAO does not have any evidence or reason to believe that the aircraft is not airworthy.

This extension by the CAMO or CAO is possible regardless of which staff or organisation, as provided for in point (b), initially issued the ARC.

(d) By derogation from point (c), the extension of the ARC may be anticipated for a maximum period of 30 days, without loss of continuity of the airworthiness review pattern, to ensure the availability of the aircraft in order to place the original ARC on board.

(e) When the competent authority carries out the airworthiness review and issues the ARC itself, the owner shall provide the competent authority with:

(1) the documentation required by the competent authority;

(2) suitable accommodation at the appropriate location for its personnel;

(3) when necessary, the support of appropriate certifying staff.

ML.A.902 Validity of the airworthiness review certificate

Regulation (EU) 2019/1383

(a) An ARC becomes invalid if, alternatively:

(1) it is suspended or revoked;

(2) the airworthiness certificate is suspended or revoked;

(3) the aircraft is not in the aircraft register of a Member State;

(4) the type certificate under which the airworthiness certificate was issued is suspended or revoked.

(b) An aircraft shall not fly if the ARC is invalid or if any of the following circumstances are present:

(1) the continuing airworthiness of the aircraft or any component fitted to the aircraft does not meet the requirements of this Annex;

(2) the aircraft does not remain in conformity with the type design approved by the Agency;

(3) the aircraft has been operated beyond the limitations of the approved flight manual or airworthiness certificate, without appropriate action being taken;

(4) the aircraft has been involved in an accident or incident that affects the airworthiness of the aircraft, without subsequent appropriate action to restore airworthiness;

(5) a modification or repair to the aircraft or any component fitted to the aircraft is not in compliance with Annex I (Part-21) to Regulation (EU) No 748/2012.

(c) Upon surrender or revocation, the ARC shall be returned to the competent authority.

ML.A.903 Airworthiness review process

Regulation (EU) 2019/1383

(a) To satisfy the requirement for the airworthiness review of an aircraft referred to in point ML.A.901, the airworthiness review staff shall perform a documented review of the aircraft records to verify that:

(1) airframe, engine and propeller flying hours and associated flight cycles have been properly recorded;

(2) the flight manual is applicable to the aircraft configuration and reflects the latest revision status;

(3) all the maintenance due on the aircraft according to the AMP has been carried out;

(4) all known defects have been corrected or deferred in a controlled manner;

(5) all applicable ADs have been applied and properly registered;

(6) all modifications and repairs made to the aircraft have been registered and are in compliance with Annex I (Part-21) to Regulation (EU) No 748/2012;

(7) all service-life-limited components installed on the aircraft are properly identified, registered and have not exceeded their approved service life limit;

(8) all maintenance has been certified in accordance with this Annex;

(9) if required, the current mass-and-balance statement reflects the configuration of the aircraft and is valid;

(10) the aircraft complies with the latest revision of its type design approved by the Agency;

(11) if required, the aircraft holds a noise certificate corresponding to the current configuration of the aircraft in compliance with Subpart I of Annex I (Part-21) to Regulation (EU) No 748/2012.

(b) The airworthiness review staff referred to in point (a) shall carry out a physical survey of the aircraft. For this survey, airworthiness review staff not appropriately qualified under Annex III (Part-66) shall be assisted by such qualified personnel.

(c) Through the physical survey of the aircraft, the airworthiness review staff shall ensure that:

(1) all required markings and placards are properly installed;

(2) the aircraft complies with its approved flight manual;

(3) the aircraft configuration complies with the approved documentation;

(4) no evident defect can be found that has not been addressed according to point ML.A.403;

(5) no inconsistencies can be found between the aircraft and the documented review of records as referred to in point (a).

(d) By derogation from point ML.A.901(a), the airworthiness review may be anticipated for a maximum period of 90 days, without loss of continuity of the airworthiness review pattern, so as to allow the physical review to take place during a maintenance check.

(e) The ARC (EASA Form 15c) set out to in Appendix IV shall only be issued:

(1) by appropriately authorised airworthiness review staff;

(2) when the airworthiness review has been completely carried out, all findings have been closed;

(3) when any discrepancy found in the AMP in accordance with point (h) has been satisfactorily addressed.

(f) A copy of any ARC issued or extended for an aircraft shall be sent to the Member State of registry of that aircraft within 10 days.

(g) Airworthiness review tasks shall not be subcontracted.

(h) The effectiveness of the AMP may be reviewed in conjunction with the airworthiness review in accordance with point (c)(9) of point ML.A.302. This review shall be completed by the person who performed the airworthiness review. If the review shows deficiencies of the aircraft linked with deficiencies in the content of the AMP, the AMP shall be amended accordingly. The person performing the review shall inform the competent authority of the Member State of registry if he does not agree with the measures amending the AMP taken by the owner, CAMO or CAO. In such case the competent authority shall decide which amendments to the AMP are necessary, raising the corresponding findings defined in point ML.B.903 and, if necessary, reacting in accordance with point ML.B.304.

ML.A.904 Qualification of airworthiness review staff

Regulation (EU) 2020/270

(a) Airworthiness review staff acting on behalf of the competent authority shall be qualified in accordance with point ML.B.902.

(b) Airworthiness review staff acting on behalf of an organisation referred to in Subpart F or Subpart G of Annex I (Part-M), Annex II (Part-145), Annex Vc (Part-CAMO) or Annex Vd (Part-CAO) shall be qualified in accordance with Subpart F or Subpart G of Annex I (Part-M), Annex II (Part-145), Annex Vc (Part-CAMO) or Annex Vd (Part-CAO), respectively.

(c) Airworthiness review staff acting on their own behalf, as permitted pursuant to point ML.A.901(b)(4), shall:

(1) hold a licence issued in accordance with Annex III (Part-66) rated for the corresponding aircraft or, if Annex III (Part-66) is not applicable to the particular aircraft, hold a national certifying-staff qualification valid for that aircraft; and

(2) hold an authorisation issued by, alternatively:

(i) the competent authority who issued the licence in accordance with Annex III (Part-66);

(ii) if Annex III (Part-66) is not applicable, the competent authority responsible for the national certifying-staff qualification.

(d) The authorisation required under point (c)(2) shall be issued by the competent authority when:

(1) the competent authority has assessed that the person has the knowledge of the parts of this Annex relevant to continuing-airworthiness management, performance of airworthiness reviews and issuance of ARCs;

(2) the person has satisfactorily performed an airworthiness review under the supervision of the competent authority.

This authorisation shall remain valid for a duration of 5 years as long as the holder has performed at least 1 airworthiness review every 12-months. If this is not the case, a new airworthiness review shall be satisfactorily performed under the supervision of the competent authority.

Upon expiration of its validity, the authorisation shall be renewed for another 5 years subject to a new compliance with points (d)(1) and (d)(2). There is no limit to the number of renewals.

The holder of the authorisation shall keep records of all the airworthiness reviews performed and shall make them available, upon request, to any competent authority and to any aircraft owner for whom they are performing an airworthiness review.

This authorisation may be revoked by the competent authority at any time if it is not satisfied with the competence of the holder or with the use of such an authorisation.

ML.A.905 Transfer of aircraft registration within the Union

Regulation (EU) 2019/1383

(a) When transferring an aircraft registration within the Union, the applicant shall:

(1) first, provide the former Member State with the name of the Member State in which the aircraft will be registered;

(2) and subsequently apply to the new Member State for the issuance of a new airworthiness certificate in accordance with Annex I (Part-21) to Regulation (EU) No 748/2012.

(b) Notwithstanding point (a)(3) of point ML.A.902, the former ARC shall remain valid until its expiry date, except when the ARC was issued by independent certifying staff holding a national certifying-staff qualification in accordance with point (b)(4) of point ML.A.901, in which case point ML.A.906 shall apply.

(c) Notwithstanding points (a) and (b), in those cases where the aircraft was in a non-airworthy condition in the former Member State or where the airworthiness status of the aircraft cannot be determined using the existing records, point ML.A.906 shall apply.

ML.A.906 Airworthiness review of aircraft imported into the Union

Regulation (EU) 2019/1383

(a) When importing an aircraft from a third country onto a Member State register, the applicant shall:

(1) apply to the competent authority of the Member State of registry for the issuance of a new airworthiness certificate in accordance with Annex I (Part-21) to Regulation (EU) No 748/2012;

(2) for aircraft other than new, have an airworthiness review carried out satisfactorily in accordance with point ML.A.901;

(3) have all maintenance carried out to comply with the approved or declared AMP.

(b) If the aircraft complies with the relevant requirements, the competent authority, the CAMO or CAO, the maintenance organisation or the independent certifying staff performing the airworthiness review, as provided for in point (b) of point ML.A.901, shall issue an ARC and shall submit a copy to the competent authority of the Member State of registry.

(c) The owner shall allow access to the aircraft for inspection by the competent authority of the Member State of registry.

(d) A new airworthiness certificate shall be issued by the competent authority of the Member State of registry if the aircraft complies with Annex I (Part-21) to Regulation (EU) No 748/2012.

ML.A.907 Findings

Regulation (EU) 2019/1383

(a) Findings are categorised as follows:

(1) A Level 1 finding is any finding of significant non-compliance with the requirements of this Annex which lowers the safety standard and seriously endangers flight safety.

(2) A Level 2 finding is any finding of non-compliance with the requirements of this Annex which may lower the safety standard and may endanger flight safety.

(b) After receipt of notification of findings in accordance with point ML.B.903, the person or organisation, having responsibilities pursuant to point ML.A.201, shall define and demonstrate to the competent authority within a period agreed with this authority a corrective action plan , aimed at preventing reoccurrence of the finding and its root cause.

SECTION B — PROCEDURE FOR COMPETENT AUTHORITIES

SUBPART A — GENERAL

ML.B.101 Scope

Regulation (EU) 2019/1383

This Section establishes the administrative requirements to be followed by the competent authorities in charge of the implementation and enforcement of Section A of this Annex.

ML.B.102 Competent authority

Regulation (EU) 2019/1383

(a) General

A Member State shall designate a competent authority with allocated responsibilities for the issuance, continuation, change, suspension or revocation of certificates and for the oversight of continuing airworthiness. This competent authority shall establish documented procedures and an organisational structure.

(b) Resources

The number of staff shall be appropriate to satisfy the requirements detailed in this Section.

(c) Qualification and training

All staff involved in activities covered by this Annex shall be appropriately qualified and have appropriate knowledge, experience, initial and continuation training to perform their allocated tasks.

(d) Procedures

The competent authority shall establish procedures detailing how compliance with this Annex is achieved.

The procedures shall be reviewed and amended to ensure continued compliance.

ML.B.104 Record-keeping

Regulation (EU) 2019/1383

(a) The competent authority shall establish a system of record-keeping that allows adequate traceability of the process for issuing, continuing, changing, suspending or revoking each certificate and authorisation.

(b) The records for the oversight of each aircraft shall include, as a minimum, a copy of:

(1) the aircraft certificate of airworthiness;

(2) ARCs;

(3) reports from the airworthiness reviews carried out directly by the Member State;

(4) all relevant correspondence relating to the aircraft;

(5) details of any exemption and enforcement action(s);

(6) any document approved by the competent authority pursuant to this Annex or Regulation (EU) No 965/2012.

(c) The records specified in point (b) shall be retained until 2 years after the aircraft has been permanently withdrawn from service.

(d) All records specified in point ML.B.104 shall be made available to any other Member State or the Agency upon their request

ML.B.105 Mutual exchange of information

Regulation (EU) 2019/1383

(a) In order to contribute to the improvement of aviation safety, the competent authorities shall participate in a mutual exchange of all the necessary information in accordance with Article 72 of Regulation (EC) 2018/1139.

(b) Without prejudice to the competences of the Member States, in the case of a potential safety threat involving several Member States, the competent authorities concerned shall assist each other in carrying out the necessary oversight action.

SUBPART B — ACCOUNTABILITY

ML.B.201 Responsibilities

Regulation (EU) 2019/1383

The competent authority referred to in point (b) of point ML.1 shall be responsible for conducting inspections and investigations in order to verify that the requirements of this Annex are complied with.

SUBPART C — CONTINUING AIRWORTHINESS

ML.B.302 Exemptions

Regulation (EU) 2019/1383

All exemptions granted in accordance with Article 71 of Regulation (EC) 2018/1139 shall be recorded and retained by the competent authority.

ML.B.303 Aircraft continuing-airworthiness monitoring

Regulation (EU) 2019/1383

(a) The competent authority shall develop a survey programme following a risk-based approach to monitor the airworthiness status of the fleet of aircraft on its register.

(b) A survey programme shall include sample product surveys of aircraft and shall cover all aspects of airworthiness key risk elements.

(c) A sample product survey shall sample the airworthiness standards achieved, on the basis of the applicable requirements, and identify any findings.

(d) Any findings identified shall be categorised in accordance with point ML.B.903 and confirmed in writing to the person or organisation responsible pursuant to point ML.A.201. The competent authority shall have a procedure in place to analyse findings as for their safety significance.

(e) The competent authority shall record all findings and closure actions.

(f) If during aircraft monitoring, evidence is found showing non-compliance with this or other Annexes, the finding shall be dealt with as provided for by the relevant Annex.

(g) If so required to ensure appropriate enforcement action, the competent authority shall exchange information on non-compliances identified in accordance with point (f) with other competent authorities.

ML.B.304 Revocation, suspension and limitation

Regulation (EU) 2019/1383

The competent authority shall:

(a) suspend an ARC on reasonable grounds in the case of a potential safety threat; or

(b) suspend or revoke an ARC pursuant to point (a) of point ML.B.903.

The competent authority who issued the airworthiness review authorisation pursuant to point (c) of point ML.A.904 for independent certifying staff shall revoke such authorisation if the holder shows poor performance of the airworthiness review or uses such authorisation in inappropriate manner.

SUBPART I — AIRWORTHINESS REVIEW CERTIFICATE (ARC)

ML.B.902 Airworthiness review by the competent authority

Regulation (EU) 2020/270

(a) When the competent authority carries out the airworthiness review and issues the ARC set out in Appendix IV to this Annex (EASA Form 15c), the competent authority shall carry out an airworthiness review in accordance with point ML.A.903.

(b) The competent authority shall have appropriate airworthiness review staff to carry out the airworthiness reviews. These staff shall have acquired all of the following:

(1) at least 3 years of experience in continuing airworthiness;

(2) an appropriate licence in compliance with Annex III (Part-66) or a nationally-recognised maintenance personnel qualification appropriate to the aircraft category (when Article 5(6) of Regulation (EU) No 1321/2014 refers to national rules) or an aeronautical degree or equivalent;

(3) an appropriate aeronautical-maintenance training;

(4) a position that authorises that person to sign on behalf of the competent authority.

Notwithstanding points (1) to (4), the requirement of point ML.B.902(b)(2) may be replaced by 4 years of experience in continuing airworthiness, in addition to those already required by point ML.B.902(b)(1).

(c) The competent authority shall maintain a record of all airworthiness review staff, which shall include details of any appropriate qualification held together with a summary of relevant continuing airworthiness management experience and training.

(d) During the performance of the airworthiness review, the competent authority shall have access to the applicable data as specified in points ML.A.305 and ML.A.401.

(e) The staff that carries out the airworthiness review shall issue an airworthiness review certificate (EASA Form 15c), as set out in Appendix IV, after satisfactory completion of the airworthiness review.

(f) Whenever circumstances reveal the existence of a potential safety threat, the competent authority shall carry out the airworthiness review and issue the ARC itself.

ML.B.903 Findings

Regulation (EU) 2019/1383

If during aircraft surveys or by other means, evidence is found showing non-compliance with requirements of this Annex, the competent authority shall:

(a) for Level 1 findings, require appropriate corrective action to be taken before further flight, and immediately revoke or suspend the ARC; and

(b) for Level 2 findings, impose the corrective action appropriate to the nature of the finding.

APPENDICES TO ANNEX VB (PART-ML)

Appendix I — Continuing-airworthiness management contract

Regulation (EU) 2019/1383

(a) When an owner contracts in accordance with point ML.A.201 a CAMO or CAO to carry out continuing airworthiness management tasks, upon request by the competent authority, a copy of the contract signed by both parties shall be sent by the owner to the competent authority of the Member State of registry.

(b) The contract shall be developed taking into account the requirements of this Annex and shall define the obligations of the signatories in relation to the continuing airworthiness of the aircraft.

(c) It shall contain, as a minimum the following information:

(1) the aircraft registration, type and serial number;

(2) the aircraft owner's or registered lessee's name or company details including the address;

(3) details of the contracted CAMO or CAO, including the address;

(4) the type of operation.

(d) It shall state the following:

'The owner entrusts the CAMO or CAO with the management of the continuing airworthiness of the aircraft, the development and approval of a maintenance programme, and the organisation of the maintenance of the aircraft according to said maintenance programme.

According to the present contract, both signatories undertake to follow the respective obligations of this contract.

The owner declares, to the best of its knowledge, that all the information given to the CAMO or CAO concerning the continuing airworthiness of the aircraft is and will be accurate, and that the aircraft will not be altered without prior approval of the CAMO or CAO.

In case of any non-conformity with this contract, by either of the signatories, the contract will become null. In such a case, the owner will retain full responsibility for every task linked to the continuing airworthiness of the aircraft, and the owner will inform the competent authoritie(s) of the Member State of registry within 2 weeks about the termination of the contract.'

(e) When an owner contracts a CAMO or CAO in accordance with point ML.A.201, the obligations of each party shall be assigned as follows:

(1) Obligations of CAMO or CAO:

(i) have the aircraft type included in its terms of approval;

(ii) respect all the conditions listed below with regard to maintaining the continuing airworthiness of the aircraft:

(A) develop and approve the AMP for the aircraft;

(B) once it has been approved, provide the owner with a copy of the AMP, as well as a copy of the justifications for any deviations from the DAH's recommendations;

(C) organise a bridging inspection using the aircraft's prior AMP;

(D) organise that all maintenance is carried out by an approved maintenance organisation or, if permitted, by independent certifying staff;

(E) organise that all applicable ADs are applied;

(F) organise that all defects discovered during maintenance, airworthiness reviews or reported by the owner are corrected by an approved maintenance organisation or, if permitted, by independent certifying staff;

(G) coordinate scheduled maintenance, the application of ADs, the replacement of service-life-limited parts, and component inspection requirements;

(H) inform the owner each time the aircraft must be brought to an approved maintenance organisation or, if permitted, to independent certifying staff;

(I) manage and archive all technical records;

(iii) organise the approval of any modification to the aircraft in accordance with Annex I to Regulation (EU) No 748/2012 (Part-21) before this modification is embodied;

(iv) organise the approval of any repair to the aircraft in accordance with Annex I to Regulation (EU) No 748/2012 (Part-21) before this repair is carried out;

(v) inform the competent authority of the Member State of registry whenever the aircraft is not presented by the owner for maintenance as requested by the contracted CAMO or CAO;

(vi) inform the competent authority of the Member State of registry whenever the present contract has not been respected;

(vii) ensure that the airworthiness review of the aircraft is carried out, when necessary, and ensure that the ARC is issued;

(viii) send within 10 days a copy of any ARC issued or extended to the competent authority of the Member State of registry;

(ix) carry out all occurrence reporting mandated by applicable regulations;

(x) inform the competent authority of the Member State of registry whenever the present contract is denounced by either party.

(2) Obligations of the owner:

(i) have a general understanding of the AMP;

(ii) have a general understanding of this Annex;

(iii) present the aircraft for maintenance as directed by the contracted CAMO or CAO;

(iv) not modify the aircraft without first consulting the contracted CAMO or CAO;

(v) inform the contracted CAMO or CAO of all maintenance exceptionally carried out without the knowledge and control of the contracted CAMO or CAO;

(vi) report to the contracted CAMO or CAO through the logbook all defects found during operations;

(vii) inform the competent authority of the Member State of registry whenever the present contract is denounced by either party;

(viii) inform the competent authority of the Member State of registry and the contracted CAMO or CAO whenever the aircraft is sold;

(ix) carry out all occurrence reporting mandated by applicable regulations;

(x) inform on a regular basis the contracted CAMO or CAO about the aircraft flying-hours and any other utilisation data, as agreed with the contracted CAMO or CAO;

(xi) enter the CRS in the logbooks, as mentioned in point ML.A.803(c), when performing pilot-owner maintenance;

(xii) inform the contracted CAMO or CAO no later than 30 days after completion of any Pilot-owner maintenance task.

Appendix II — Limited Pilot-owner maintenance

Regulation (EU) 2019/1383

In addition to the requirements laid down in this Annex, the pilot-owner shall comply with the following basic principles before it carries out any maintenance task:

(a) Competence and responsibility

(1) The pilot-owner shall always be responsible for any maintenance he performs.

(2) The pilot-owner shall hold satisfactory level of competence to perform the task. It is the responsibility of a pilot-owner to familiarise himself with the standard maintenance practices for his aircraft and with the AMP.

(b) Tasks

The Pilot-owner may carry out simple visual inspections or operations to check the airframe, engines, systems and components for general condition, obvious damage and normal operation.

A maintenance task shall not be released by the pilot-owner if any of the following conditions occurs:

(1) it is a critical maintenance task;

(2) it requires the removal of major components o r a major assembly;

(3) it is carried out in compliance with an AD or an airworthiness limitation item (ALI) unless specifically allowed in the AD or the ALI;

(4) it requires the use of special tools or calibrated tools (except for torque wrench and crimping tool);

(5) it requires the use of test equipment or special testing (e.g. non-destructive testing (NDT), system tests or operational checks for avionics equipment);

(6) it is composed of any unscheduled special inspections (e.g. heavy-landing check);

(7) it affects systems essential for the instrumental flight rules (IFR) operations;

(8) it is a complex maintenance task in accordance with Appendix III, or it is a component maintenance task in accordance with point (a) or (b) of point ML.A.502;

(9) it is part of the 100-h/annual check (for those cases the maintenance task is combined with the airworthiness review performed by maintenance organisations or independent certifying staff).

The criteria referred to in points (1) to (9) cannot be overridden by less restrictive instructions issued in accordance with the AMP referred to in point ML.A.302.

Any task described in the aircraft flight manual (or other operational manuals), for example preparing the aircraft for flight (assembling the sailplane wings, or performing a preflight inspection, or assembling a basket, burner, fuel cylinders and an envelope combination for a balloon, etc.), is not considered a maintenance task and, therefore, does not require a CRS. Nevertheless, the person assembling those parts is responsible for ensuring that those parts are eligible for installation and in a serviceable condition.

(c) Performance and records of the pilot-owner maintenance tasks

The maintenance data, as specified in point ML.A.401, must always be available during the conduct of pilot-owner maintenance and must be complied with. Details of the data referred to in the conduct of pilot-owner maintenance must be included in the CRS in accordance with point (d) of point ML.A.803.

The pilot-owner must inform the contracted CAMO or CAO (if such contract exists) about the completion of the pilot-owner maintenance tasks no later than 30 days after completion of these tasks in accordance with point (a) of point ML.A.305.

Appendix III — Complex maintenance tasks not to be released by the Pilot-owner

Regulation (EU) 2020/270

All of the following constitutes the complex maintenance tasks which, according to Appendix II, shall not be carried out by the pilot-owner. Those tasks shall be released either by an approved maintenance organisation or by independent certifying staff:

(a) the modification, repair or replacement by riveting, bonding, laminating, or welding of any of the following airframe parts:

(1) a box beam;

(2) a wing stringer or chord member;

(3) a spar;

(4) a spar flange;

(5) a member of a truss type beam;

(6) the web of a beam;

(7) a keel or chine member of a flying boat hull or a float;

(8) a corrugated sheet compression member in a wing or tail surface;

(9) a wing main rib;

(10) a wing or tail surface brace strut;

(11) an engine mount;

(12) a fuselage longeron or frame;

(13) a member of a side truss, horizontal truss or bulkhead;

(14) a seat support brace or bracket;

(15) a seat rail replacement;

(16) a landing-gear strut or brace strut;

(17) an axle;

(18) a wheel; and

(19) a ski or ski pedestal, excluding the replacement of a low-friction coating;

(b) the modification or repair of any of the following parts:

(1) aircraft skin or the skin of an aircraft float if the work requires the use of a support, jig or fixture;

(2) aircraft skin that is subject to pressurisation loads if the damage to the skin measures more than 15 cm (6 in.) in any direction;

(3) a load-bearing part of a control system, including a control column, pedal, shaft, quadrant, bell crank, torque tube, control horn and forged or cast bracket, but excluding:

(i) the swaging of a repair splice or cable fitting; and

(ii) the replacement of a push-pull tube end fitting that is attached by riveting;

(4) any other structure not listed in point (a) that a manufacturer has identified as primary structure in their maintenance manual, structural repair manual or instructions for continuing airworthiness;

(c) the performance of all of the following maintenance on a piston engine:

(1) dismantling and subsequent reassembling of a piston engine other than:

(i) to obtain access to the piston/cylinder assemblies; or

(ii) to remove the rear accessory cover to inspect and/or replace oil pump assemblies, where such work does not involve the removal and refitment of internal gears;

(2) dismantling and subsequent reassembling of reduction gears;

(3) welding and brazing of joints, other-than-minor weld repairs to exhaust units carried out by a suitably approved or authorised welder but excluding component replacement;

(4) the disturbing of individual parts of units which are supplied as bench-tested units except for the replacement or adjustment of items normally replaceable or adjustable in service;

(d) the balancing of a propeller, except:

(1) for the certification of static balancing where required by the maintenance manual; and

(2) dynamic balancing on installed propellers using electronic balancing equipment where permitted by the maintenance manual or other approved airworthiness data;

(e) any additional task that requires:

(1) specialised tooling, equipment or facilities; or

(2) significant coordination procedures because of the extensive duration of the tasks and the involvement of several persons.

Appendix IV — Airworthiness review certificate (EASA Form 15c)

Regulation (EU) 2019/1383

NOTE: persons and organisations performing the airworthiness review in combination with the 100-h/annual inspection may use the reverse side of this form in order to issue the CRS referred to in point ML.A.801 corresponding to the 100-h/annual inspection.

AIRWORTHINESS REVIEW CERTIFICATE (ARC) (for aircraft complying with Annex Vb (Part-ML)

ARC reference: …….

Pursuant to Regulation (EC) 2018/1139 of the European Parliament and of the Council:

[NAME OF THE COMPETENT AUTHORITY]

or

[NAME OF APPROVED ORGANISATION, ADDRESS and APPROVAL REFERENCE]

or

[FULL NAME OF THE CERTIFYING STAFF AND PART-66 LICENCE NUMBER (OR NATIONAL EQUIVALENT)]

hereby certifies that it has performed an airworthiness review in accordance with Regulation (EU) No 1321/2014 on the following aircraft:

Aircraft manufacturer: ……Manufacturer's designation: …….

Aircraft registration: ……Aircraft serial number: ……

and this aircraft is considered airworthy at the time of the review.

Date of issue: …… Date of expiry: ……

Airframe flight hours (FH) at date of review (*): ……

Signed: …… Authorisation No (if applicable): ……

1st Extension: the aircraft complies with the conditions of point ML.A.901(c) of Annex Vb (Part-ML)

Date of issue: …… Date of expiry: ……

Airframe flight Hours (FH) at date of issue (*): ……

Signed: …… Authorisation No: ……

Company name: …… Approval reference: ……

2nd Extension: the aircraft complies with the conditions of point ML.A.901(c) of Annex Vb (Part-ML)

Date of issue: …… Date of expiry: ……

Airframe flight hours (FH) at date of issue (*): ……

Signed: …… Authorisation No: ……

Company name: …… Approval reference: ……

(*) except for balloons and airships

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ANNEX Vc (PART-CAMO)

SECTION A — ORGANISATION REQUIREMENTS

CAMO.A.005 Scope

Regulation (EU) 2019/1383

This Section establishes the requirements to be met by an organisation to qualify for the issue or continuation of a certificate for the management of continuing airworthiness of an aircraft and of components for installation.

CAMO.A.105 Competent authority

Regulation (EU) 2019/1383

For the purpose of this Annex, the competent authority shall be:

(a) the authority designated by the Member State where that organisation's principal place of business is located, if the approval is not included in an air operator certificate;

(b) the authority designated by the Member State of the operator, if the approval is included in an air operator certificate;

(c) the Agency, if the organisation's principal place of business is located in a third country.

CAMO.A.115 Application for an organisation certificate

Regulation (EU) 2019/1383

(a) The application for a certificate or an amendment to an existing certificate in accordance with this Annex shall be made in a form and manner established by the competent authority, taking into account the applicable requirements of Annex I (Part-M), Annex Vb (Part-ML) and this Annex.

(b) Applicants for an initial certificate pursuant to this Annex shall provide the competent authority with:

(1) the results of a pre-audit performed by the organisation against the applicable requirements provided for in Annex I (Part-M), Annex Vb (Part-ML) and this Annex;

(2) documentation demonstrating how they will comply with the requirements established in this Regulation.

Such documentation shall include, as provided for in point CAMO.A.130, a procedure describing how changes not requiring prior approval will be managed and notified to the competent authority.

CAMO.A.120 Means of compliance

Regulation (EU) 2019/1383

(a) Alternative means of compliance to the AMC adopted by the Agency may be used by an organisation to establish compliance with Regulation (EU) 2018/1139 and its delegated and implementing acts.

(b) When an organisation wishes to use an alternative means of compliance, it shall, prior to using it, provide the competent authority with a full description of the alternative means of compliance. The description shall include any revisions to manuals or procedures that may be relevant, as well as an assessment demonstrating compliance with Regulation (EU) 2018/1139 and its delegated and implementing acts.

The organisation may use these alternative means of compliance subject to prior approval by the competent authority, and upon receipt of the notification as provided for in point CAMO.B.120.

CAMO.A.125 Terms of approval and privileges

Regulation (EU) 2020/270

(a) The approval is indicated on the certificate, which is included in Appendix I, and is issued by the competent authority.

(b) Notwithstanding point (a), for air carriers licensed in accordance with Regulation (EC) No 1008/2008, the approval shall be part of the air operator certificate issued by the competent authority for the aircraft operated.

(c) The scope of work shall be specified in the continuing airworthiness management exposition (CAME) in accordance with point CAMO.A.300.

(d) An organisation approved in accordance with this Annex may:

(1) manage the continuing airworthiness of aircraft, except those used by air carriers licensed in accordance with Regulation (EC) No 1008/2008, as listed on the certificate;

(2) manage the continuing airworthiness of aircraft used by air carriers licensed in accordance with Regulation (EC) No 1008/2008, when listed both on its certificate and on its air operator certificate;

(3) arrange to carry out limited continuing airworthiness tasks with any subcontracted organisation, working under its management system, as listed on the certificate;

(4) extend an airworthiness review certificate under the conditions of point M.A.901(f) of Annex I (Part-M) or point ML.A.901(c) of Annex Vb (Part-ML), as applicable.

(5) Approve the AMP, in accordance with point (b)(2) of point ML.A.302, for aircraft managed in accordance with Annex Vb (Part-ML).

(e) An organisation approved in accordance with this Annex and having its principal place of business in one of the Member States, may additionally be approved to carry out airworthiness reviews in accordance with point M.A.901 of Annex I (Part-M) or point ML.A.903 of Annex Vb (Part-ML) as applicable, and:

(1) issue the related airworthiness review certificate and extend it in due time under the conditions of point M.A.901(c)(2) and point M.A.901(e)(2) of Annex I (Part-M) or point ML.A.901(c) of Annex Vb (Part-ML), as applicable;

(2) issue a recommendation for the airworthiness review to the competent authority of the Member State of registry, under the conditions of point (d) of point M.A.901 or point (b) of point M.A.904 of Annex I (Part-M).

(f) An organisation holding the privileges referred to in point (e) may additionally be approved to issue a permit to fly in accordance with point (d) of point 21.A.711 of Annex I (Part-21) to Regulation (EU) No 748/2012 for the particular aircraft for which the organisation is approved to issue the airworthiness review certificate, when the organisation is attesting conformity with approved flight conditions, subject to an adequate procedure in the CAME referred to in point CAMO.A.300.

CAMO.A.130 Changes to the organisation

Regulation (EU) 2019/1383

(a) The following changes to the organisation shall require prior approval:

(1) changes that affect the scope of the certificate or the terms of approval of the organisation;

(2) changes to personnel nominated in accordance with points (a)(3) to (a)(5) and (b)(2) of point CAMO.A.305;

(3) changes to the reporting lines between the personnel nominated in accordance with points (a)(3) to (a)(5) and (b)(2) of point CAMO.A.305, and the accountable manager;

(4) the procedure as regards changes not requiring prior approval referred to in point (c).

(b) For any changes requiring prior approval in accordance with Regulation (EU) 2018/1139 and its delegated and implementing acts, the organisation shall apply for and obtain an approval issued by the competent authority. The application shall be submitted before any such change takes place, in order to enable the competent authority to determine continued compliance with Regulation (EU) 2018/1139 and its delegated and implementing acts and to amend, if necessary, the organisation certificate and related terms of approval attached to it.

The organisation shall provide the competent authority with any relevant documentation.

The change shall only be implemented upon receipt of formal approval by the competent authority in accordance with point CAMO.B.330.

The organisation shall operate under the conditions established by the competent authority during such changes, as applicable.

(c) All changes not requiring prior approval shall be managed and notified to the competent authority as defined in the procedure referred to in point (b) of point CAMO.A.115 and approved by the competent authority in accordance with point (h) of point CAMO.B.310.

CAMO.A.135 Continued validity

Regulation (EU) 2019/1383

(a) The organisation's certificate shall remain valid subject to compliance with all of the following conditions:

(1) the organisation remaining in compliance with Regulation (EU) 2018/1139 and its delegated and implementing acts, taking into account the provisions related to the handling of findings as specified under point CAMO.B.350;

(2) the competent authority being granted access to the organisation as specified in point CAMO.A.140;

(3) the certificate not being surrendered or revoked.

(b) For air carriers licensed in accordance with Regulation (EC) No 1008/2008, termination, suspension or revocation of the air operator certificate automatically invalidates the organisation certificate in relation to the aircraft registrations specified in the air operator certificate, unless otherwise explicitly stated by the competent authority.

(c) Upon revocation or surrender, the certificate shall be returned to the competent authority without delay.

CAMO.A.140 Access

Regulation (EU) 2019/1383

For the purpose of determining compliance with the relevant requirements of Regulation (EU) 2018/1139 and its delegated and implementing acts, the organisation shall grant access at any time to any facility, aircraft, document, records, data, procedures or any other material relevant to its activity subject to certification, whether it is contracted/subcontracted or not, to any person authorised by one of the following authorities:

(a) the competent authority defined in point CAMO.A.105;

(b) the authority acting under the provisions of point (d) of point CAMO.B.300 or point (e) of point CAMO.B.300.

CAMO.A.150 Findings

Regulation (EU) 2019/1383

(a) After receipt of notification of findings according to point CAMO.B.350, the organisation shall:

(1) identify the root cause or causes of and contributing factors to the non-compliance;

(2) define a corrective action plan;

(3) demonstrate corrective action implementation to the satisfaction of the competent authority.

(b) Actions referred to in points (a)(1), (a)(2) and (a)(3) shall be performed within the period agreed with that competent authority as defined in point CAMO.B.350.

CAMO.A.155 Immediate reaction to a safety problem

Regulation (EU) 2019/1383

The organisation shall implement:

(a) any safety measures mandated by the competent authority in accordance with point CAMO.B.135;

(b) any relevant mandatory safety information issued by the Agency.

CAMO.A.160 Occurrence reporting

Regulation (EU) 2019/1383

(a) As part of its management system the organisation shall implement an occurrence reporting system that meets the requirements defined in Regulation (EU) No 376/2014 and Implementing Regulation (EU) 2015/1018[1].

(b) Without prejudice to point (a), the organisation shall ensure that any incident, malfunction, technical defect, exceeding of technical limitations, occurrence that would highlight inaccurate, incomplete or ambiguous information contained in data established in accordance with Annex I (Part-21) to Regulation (EU) No 748/2012 or other irregular circumstance that has or may have endangered the safe operation of the aircraft and that has not resulted in an accident or serious incident are reported to the competent authority and to the organisation responsible for the design of the aircraft.

(c) Without prejudice to Regulation (EU) No 376/2014 and Implementing Regulation (EU) 2015/1018, the reports referred to in points (a) and (b) shall be made in a form and manner established by the competent authority and shall contain all pertinent information about the condition known to the organisation.

(d) Reports shall be made as soon as possible, but in any case within 72 hours of the organisation identifying the condition to which the report relates, unless exceptional circumstances prevent this.

(e) Where relevant, the organisation shall produce a follow-up report to provide details of actions it intends to take to prevent similar occurrences in the future, as soon as these actions have been identified. This report shall be produced in a form and manner established by the competent authority.

CAMO.A.200 Management system

Regulation (EU) 2019/1383

(a) The organisation shall establish, implement, and maintain a management system that includes:

(1) clearly defined lines of responsibility and accountability throughout the organisation, including a direct safety accountability of the accountable manager;

(2) a description of the overall philosophies and principles of the organisation with regard to safety, referred to as the safety policy;

(3) the identification of aviation safety hazards entailed by the activities of the organisation, their evaluation and the management of associated risks, including taking actions to mitigate the risks and verify their effectiveness;

(4) maintaining personnel trained and competent to perform their tasks;

(5) documentation of all management system key processes, including a process for making personnel aware of their responsibilities and the procedure for amending this documentation;

(6) a function to monitor compliance of the organisation with the relevant requirements. Compliance monitoring shall include a feedback system of findings to the accountable manager to ensure effective implementation of corrective actions as necessary;

[1] Regulation (EU) 2015/1018 of 29 June 2015 laying down a list classifying occurrences in civil aviation to be mandatorily reported according to Regulation (EU) No 376/2014 of the European Parliament and of the Council (OJ L163, 30,06,2015, p. 1).

(7) any additional requirements that are laid down in this Regulation.

(b) The management system shall correspond to the size of the organisation and the nature and complexity of its activities, taking into account the hazards and associated risks inherent in these activities.

(c) Where the organisation holds one or more additional organisation certificates within the scope of Regulation (EU) 2018/1139 and its delegated and implementing acts, the management system may be integrated with that required under the additional certificate(s) held.

(d) Notwithstanding point (c), for air carriers licensed in accordance with Regulation (EC) No 1008/2008, the management system provided for in this Annex shall be an integrated part of the operator's management system.

CAMO.A.202 Internal safety reporting scheme

Regulation (EU) 2019/1383

(a) As part of its management system, the organisation shall establish an internal safety reporting scheme to enable the collection and evaluation of such occurrences to be reported under point CAMO.A.160.

(b) The scheme shall also enable the collection and evaluation of those errors, near misses, and hazards reported internally that do not fall under point (a).

(c) Through this scheme, the organisation shall:

(1) identify the causes of and contributing factors to any errors, near misses, and hazards reported and address them as part of safety risk management in accordance with point (a)(3) of point CAMO.A.200;

(2) ensure evaluation of all known, relevant information relating to errors, the inability to follow procedures, near misses, and hazards, and a method to circulate the information as necessary.

(d) The organisation shall provide access to its internal safety reporting scheme to any subcontracted organisation.

(e) The organisation shall cooperate on safety investigations with any other organisation having a significant contribution to the safety of its own continuing airworthiness management activities.

CAMO.A.205 Contracting and subcontracting

Regulation (EU) 2019/1383

(a) The organisation shall ensure that when contracting maintenance or when subcontracting any part of its continuing airworthiness management activities:

(1) these activities conform to the applicable requirements; and

(2) any aviation safety hazards associated with such contracting or subcontracting are considered as part of the organisation's management system.

(b) When the organisation subcontracts any part of its continuing airworthiness management activities to another organisation, the subcontracted organisation shall work under the approval of the organisation. The organisation shall ensure that the competent authority is given access to the subcontracted organisation, to determine continued compliance with the applicable requirements.

CAMO.A.215 Facilities

Regulation (EU) 2019/1383

The organisation shall provide suitable office accommodation at appropriate locations for the personnel specified in point CAMO.A.305.

CAMO.A.220 Record-keeping

Regulation (EU) 2019/1383

(a) Continuing airworthiness management records

(1) The organisation shall ensure that records required by points M.A.305, ML.A.305 and, if applicable point M.A.306, are retained.

(2) The organisation shall record all details of work carried out.

(3) If the organisation has the privilege referred to in point (e) of point CAMO.A.125, it shall retain a copy of each airworthiness review certificate and recommendation issued or, as applicable, extended, together with all supporting documents. In addition, the organisation shall retain a copy of any airworthiness review certificate that it has extended under the privilege referred to in point (d)(4) of point CAMO.A.125.

(4) If the organisation has the privilege referred to in point (f) of point CAMO.A.125, it shall retain a copy of each permit to fly issued in accordance with the provisions of point 21.A.729 of Annex I (Part-21) to Regulation (EU) No 748/2012.

(5) The organisation shall retain a copy of all records referred to in points (a)(2) to (a)(4) until 3 years after the responsibility for the aircraft in accordance with points M.A.201 or ML.A.201 has been permanently transferred to another person or organisation.

(6) Where the organisation terminates its operation, all retained records shall be transferred to the owner of the aircraft.

(b) Management system, contracting and subcontracting records

(1) The organisation shall ensure that the following records are retained:

(i) records of management system key processes as defined in point CAMO.A.200;

(ii) contracts, both for contracting and subcontracting, as defined in point CAMO.A.205;

(2) Management system records, as well as any contracts pursuant to point CAMO.A.205, shall be kept for a minimum period of 5 years.

(c) Personnel records

(1) The organisation shall ensure that the following records are retained:

(i) records of qualification and experience of personnel involved in continuing airworthiness management, compliance monitoring and safety management;

(ii) records of qualification and experience of all airworthiness review staff, as well as staff issuing recommendations and permits to fly.

(2) The records of all airworthiness review staff, staff issuing recommendations and staff issuing permits to fly shall include details of any appropriate qualification held together with a summary of the relevant continuing airworthiness management experience and training and a copy of the authorisation.

(3) Personnel records shall be kept as long as the person works for the organisation, and shall be retained until 3 years after the person has left the organisation.

(d) The organisation shall establish a system of record-keeping that allows adequate storage and reliable traceability of all activities developed.

(e) The format of the records shall be specified in the organisation's procedures.

(f) Records shall be stored in a manner that ensures protection from damage, alteration and theft.

CAMO.A.300 Continuing airworthiness management exposition (CAME)

Regulation (EU) 2020/270

(a) The organisation shall provide the competent authority with a CAME and, where applicable, any referenced associated manuals and procedures, containing all of the following information:

(1) a statement signed by the accountable manager confirming that the organisation will at all times work in accordance with this Annex, Annex I (Part-M) and Annex Vb (Part-ML), as applicable, and with the approved CAME. When the accountable manager is not the chief executive officer of the organisation, then such chief executive officer shall countersign the statement;

(2) the organisation's safety policy as defined in point (a)(2) of point CAMO.A.200;

(3) the organisation's scope of work relevant to the terms of approval;

(4) a general description of the manpower resources and of the system in place to plan the availability of staff as required by point (d) of point CAMO.A.305;

(5) the title(s) and name(s) of person(s) referred to in points (a)(3) to (a)(5), (b)(2) and (f) of point CAMO.A.305;

(6) the duties, accountabilities, responsibilities and authorities of the persons nominated under points (a)(3) to (a)(5), (b)(2), (e) and (f) of point CAMO.A.305;

(7) an organisation chart showing the associated chains of accountability and responsibility between all the person(s) referred to in points (a)(3) to (a)(5), (b)(2), (e) and (f) of point CAMO.A.305, and related to point (a)(1) of point CAMO.A.200;

(8) a list of staff authorised to issue airworthiness review certificates or recommendations referred to in point (e) of point CAMO.A.305, specifying, where applicable, the staff authorised to issue permits to fly in accordance with point (c) of point CAMO.A.125;

(9) a general description and location of the facilities;

(10) the description of the internal safety reporting scheme as required by point CAMO.A.202;

(11) the procedures specifying how the organisation ensures compliance with this Annex, Annex I (Part-M) and Annex Vb (Part-ML), as applicable, including in particular:

(i) the documentation of management system key processes as required by point CAMO.A.200;

(ii) procedures defining how the organisation controls any contracted and subcontracted activities as required by point CAMO.A.205 and point (c) of point CAMO.A.315);

(iii) continuing airworthiness management, airworthiness review and permit to fly procedures, as applicable;

(iv) the procedure defining the scope of changes not requiring prior approval and describing how such changes will be managed and notified, as required by point (b) of point CAMO.A.115 and point (c) of point CAMO.A.130;

(i) the CAME amendment procedures.

(12) the list of approved aircraft maintenance programmes for those aircraft for which a continuing airworthiness management contract exists in accordance with point M.A.201 or ML.A.201;

(13) the list of maintenance contracts in accordance with point (c) of point CAMO.A.315;

(14) the list of currently approved alternative means of compliance.

(b) The initial issue of the CAME shall be approved by the competent authority. It shall be amended as necessary to remain an up-to-date description of the organisation.

(c) Amendments to the CAME shall be managed as defined in the procedures referred to in points (a)(11)(iv) and (a)(11)(v). Any amendments not included in the scope of the procedure referred to in point (a)(11)(iv), as well as amendments related to the changes listed in point CAMO.A.130(a), shall be approved by the competent authority.

CAMO.A.305 Personnel requirements

Regulation (EU) 2019/1383

(a) The organisation shall appoint an accountable manager, who has corporate authority for ensuring that all continuing airworthiness management activities can be financed and carried out in accordance with Regulation (EU) 2018/1139 and delegated and implementing acts adopted on the basis thereof. The accountable manager shall:

(1) ensure that all necessary resources are available to manage continuing airworthiness in accordance with this Annex, Annex I (Part-M) and Annex Vb (Part-ML), as applicable, to support the organisation approval certificate;

(2) establish and promote the safety policy specified in point CAMO.A.200;

(3) nominate a person or group of persons with the responsibility of ensuring that the organisation always complies with the applicable continuing airworthiness management, airworthiness review and permit to fly requirements of this Annex, Annex I (Part-M) and Annex Vb (Part-ML);

(4) nominate a person or group of persons with the responsibility for managing the compliance monitoring function as part of the management system;

(5) nominate a person or group of persons with the responsibility for managing the development, administration, and maintenance of effective safety management processes as part of the management system;

(6) ensure that the person or group of persons nominated in accordance with points (a)(3) to (a)(5) and (b)(2) of point CAMO.A.305 have direct access to keep him/her properly informed on compliance and safety matters;

(7) demonstrate a basic understanding of this Regulation.

(b) For organisations also approved as air carriers licensed in accordance with Regulation (EC) No 1008/2008, the accountable manager shall in addition:

(1) be the person appointed as accountable manager for the air carrier as required by point (a) of point ORO.GEN.210 of Annex III (Part-ORO) to Regulation (EU) No 965/2012;

(2) nominate a person responsible for the management and supervision of continuing airworthiness, who shall not be employed by an organisation approved in accordance with Annex II (Part-145) under contract to the operator, unless specifically agreed by the competent authority.

(c) The person or persons nominated in accordance with points (a)(3) to (a)(5) and (b)(2) of point CAMO.A.305 shall be able to demonstrate relevant knowledge, background and satisfactory experience related to aircraft continuing airworthiness management and demonstrate a working knowledge of this Regulation. Such person(s) shall be ultimately responsible to the accountable manager.

(d) The organisation shall have a system in place to plan the availability of staff to ensure that the organisation has sufficient appropriately qualified staff to plan, perform, supervise, inspect and monitor the organisation's activities in accordance with the terms of approval.

(e) To be approved to carry out airworthiness reviews or recommendations in accordance with point (e) of point CAMO.A.125 and, if applicable, to issue permits to fly in accordance with point (f) of point CAMO.A.125, the organisation shall have airworthiness review staff qualified and authorised in accordance with point CAMO.A.310.

(f) For organisations extending airworthiness review certificates in accordance with point (d)(4) of point CAMO.A.125, the organisation shall nominate persons authorised to do so.

(g) The organisation shall establish and control the competency of personnel involved in compliance monitoring, safety management, continuing airworthiness management, airworthiness reviews or recommendations, and, if applicable, issuing permits to fly, in accordance with a procedure and to a standard agreed by the competent authority. In addition to the necessary expertise related to the job function, competency must include an understanding of safety management and human factors principles appropriate to the person's function and responsibilities in the organisation.

CAMO.A.310 Airworthiness review staff qualifications

Regulation (EU) 2019/1383

(a) Airworthiness review staff issuing airworthiness review certificates or recommendations in accordance with point (e) of point CAMO.A.125 and, if applicable, issuing permits to fly in accordance with point (f) of point CAMO.A.125 shall have:

(1) at least 5 years of experience in continuing airworthiness;

(2) acquired an appropriate licence in compliance with Annex (III) Part-66 or an aeronautical degree or a national equivalent;

(3) received formal aeronautical maintenance training;

(4) held a position within the approved organisation with appropriate responsibilities.

(b) Notwithstanding points (a)(1), (a)(3) and (a)(4), the requirement laid down in point (a)(2) may be replaced with 5 years of experience in continuing airworthiness additional to those already required by point (a)(1).

(c) Airworthiness review staff nominated by the organisation can only be issued an authorisation by that organisation when formally accepted by the competent authority after satisfactory completion of an airworthiness review under the supervision of the competent authority, or under the supervision of the organisation's authorised airworthiness review staff, in accordance with a procedure approved by the competent authority as part of the CAME.

(d) The organisation shall ensure that aircraft airworthiness review staff can demonstrate appropriate, recent continuing airworthiness management experience.

CAMO.A.315 Continuing airworthiness management

Regulation (EU) 2020/270

(a) The organisation shall ensure that all continuing airworthiness management is carried out in accordance with Section A, Subpart C of Annex I (Part-M), or Section A Subpart C of Annex Vb (Part-ML), as applicable.

(b) For every aircraft managed, the organisation shall in particular:

(1) ensure that an aircraft maintenance programme including any applicable reliability programme, as required by point M.A.302 or ML.A.302 as applicable, is developed and controlled;

(2) for aircraft not used by air carriers licensed in accordance with Regulation (EC) No 1008/2008, provide a copy of the aircraft maintenance programme to the owner or operator responsible in accordance with point M.A.201 or ML.A.201 as applicable;

(3) ensure that data used for any modification and repairs complies with points M.A.304 or ML.A.304 as applicable;

(4) for all complex motor-powered aircraft or aircraft used by air carriers licensed in accordance with Regulation (EC) No 1008/2008, establish a procedure to assess non-mandatory modifications and/or inspections and decide on their application, making use of the organisation's safety risk management process as required by point (a)(3) of point CAMO.A.200;

(5) ensure that the aircraft, engine(s), propeller(s) and components thereof are taken to an appropriately approved maintenance organisation referred to in Subpart F of Annex I (Part-M), Annex II (Part-145) or Annex Vd (Part-CAO) whenever necessary;

(6) order maintenance, supervise activities, and coordinate related decisions to ensure that any maintenance is carried out properly and is appropriately released for the determination of aircraft airworthiness.

(c) Where the organisation is not appropriately approved in accordance with Subpart F of Annex I (Part-M), Annex II (Part-145) or Annex Vd (Part-CAO) it shall, in consultation with the operator, manage the written maintenance contracts required by points (e)(3), (f)(3), (g)(3) and (h)(3) of M.A.201 or point ML.A.201 to ensure that:

(1) all maintenance is ultimately carried out by an appropriately approved maintenance organisation;

(2) the functions required under points (b), (c), (f) and (g) of point M.A.301 of Annex I (Part-M) or point ML.A.301 of Annex Vb (Part-ML), as applicable, are clearly specified.

(d) Notwithstanding point (c), the contract may be in the form of individual work orders addressed to the maintenance organisation in the case of:

(1) an aircraft requiring unscheduled line maintenance;

(2) component maintenance, including engine and propeller maintenance, as applicable.

(e) The organisation shall ensure that human factors and human performance limitations are taken into account during continuing airworthiness management, including all contracted and subcontracted activities.

CAMO.A.320 Airworthiness review

Regulation (EU) 2019/1383

When the organisation approved in accordance with point (e) of point CAMO.A.125 performs airworthiness reviews, they shall be performed in accordance with point M.A.901 of Annex I (Part-M) or point ML.A.903 of Annex Vb (Part-ML), as applicable.

CAMO.A.325 Continuing airworthiness management data

Regulation (EU) 2020/270

The organisation shall hold and use applicable current maintenance data in accordance with point M.A.401 of Annex I (Part-M) or point ML.A.401 of Annex Vb (Part-ML), as applicable, for the performance of continuing airworthiness tasks referred to in point CAMO.A.315 of this Annex (Part-CAMO). That data may be provided by the owner or the operator, subject to an appropriate contract being established with such an owner or operator. In such case, the continuing airworthiness management organisation shall only keep such data for the duration of the contract, except when otherwise required by point CAMO.A.220(a).

SECTION B — AUTHORITY REQUIREMENTS

CAMO.B.005 Scope

Regulation (EU) 2019/1383

This Section establishes the administrative and management system requirements to be followed by the competent authority in charge of the implementation and enforcement of Section A of this Annex.

CAMO.B.115 Oversight documentation

Regulation (EU) 2019/1383

The competent authority shall provide all legislative acts, standards, rules, technical publications, and related documents to relevant personnel in order to allow them to perform their tasks and to discharge their responsibilities.

CAMO.B.120 Means of compliance

Regulation (EU) 2019/1383

(a) The Agency shall develop Acceptable Means of Compliance ('AMC') that may be used to establish compliance with Regulation (EU) 2018/1139 and its delegated and implementing acts.

(b) Alternative means of compliance may be used to establish compliance with Regulation (EU) 2018/1139 and its delegated and implementing acts

(c) The competent authority shall establish a system to consistently evaluate that all alternative means of compliance used by itself or by organisations under its oversight allow for the establishment of compliance with Regulation (EU) No 2018/1139 and its delegated and implementing acts.

(d) The competent authority shall evaluate all alternative means of compliance proposed by an organisation in accordance with point CAMO.A.120 by analysing the documentation provided and, if considered necessary, conducting an inspection of the organisation.

When the competent authority finds that the alternative means of compliance are in accordance with Regulation (EU) 2018/1139 and its delegated and implementing acts, it shall without undue delay:

(1) notify the applicant that the alternative means of compliance may be implemented and, if applicable, amend the approval or certificate of the applicant accordingly;

(2) notify the Agency of their content, including copies of all relevant documentation.

(e) When the competent authority itself uses alternative means of compliance to achieve compliance with Regulation (EU) 2018/1139 and its delegated and implementing acts it shall:

(1) make them available to all organisations and persons under its oversight;

(2) without undue delay notify the Agency.

The competent authority shall provide the Agency with a full description of the alternative means of compliance, including any revisions to procedures that may be relevant, as well as an assessment demonstrating that they comply with Regulation (EU) 2018/1139 and its delegated and implementing acts.

CAMO.B.125 Information to the Agency

Regulation (EU) 2019/1383

(a) The competent authority shall, without undue delay, notify the Agency in case of any significant problems with the application of Regulation (EU) 2018/1139 and its delegated and implementing acts.

(b) The competent authority shall provide the Agency with safety-significant information stemming from the occurrence reports it has received pursuant to point CAMO.A.160.

CAMO.B.135 Immediate reaction to a safety problem

Regulation (EU) 2019/1383

(a) Without prejudice to Regulation (EU) No 376/2014 and Implementing Regulation (EU) 2015/1018[1], the competent authority shall implement a system to appropriately collect, analyse, and disseminate safety information.

(b) The Agency shall implement a system to appropriately analyse any relevant safety information received, and without undue delay provide to Member States and the Commission any information, including recommendations or corrective actions to be taken, necessary for them to react in a timely manner to a safety problem involving products, parts, appliances, persons or organisations subject to Regulation (EU) 2018/1139 and its delegated and implementing acts.

(c) Upon receiving the information referred to in points (a) and (b), the competent authority shall take adequate measures to address the safety problem.

(d) Measures taken under point (c) shall immediately be notified to all persons or organisations which need to comply with them under Regulation (EU) 2018/1139 and its delegated and implementing acts. The competent authority shall also notify those measures to the Agency and, when combined action is required, the other Member States concerned.

CAMO.B.200 Management system

Regulation (EU) 2019/1383

(a) The competent authority shall establish and maintain a management system, including as a minimum:

(1) documented policies and procedures to describe its organisation, means and methods to comply with Regulation (EU) 2018/1139 and its delegated and implementing acts. The procedures shall be kept up to date, and serve as the basic working documents within that competent authority for all related tasks;

(2) a sufficient number of personnel to perform its tasks and discharge its responsibilities. A system shall be in place to plan the availability of personnel, in order to ensure the proper completion of all tasks;

(3) personnel qualified to perform their allocated tasks and have the necessary knowledge, experience, initial and recurrent training to ensure continuing competency;

(4) adequate facilities and office accommodation to perform the allocated tasks;

(5) a function to monitor compliance of the management system with the relevant requirements and adequacy of the procedures including the establishment of an internal

[1] Regulation (EU) 2015/1018 of 29 June 2015 laying down a list classifying occurrences in civil aviation to be mandatorily reported according to Regulation (EU) No 376/2014 of the European Parliament and of the Council (OJ L 163, 30.6.2015, p. 1).

audit process and a safety risk management process. Compliance monitoring shall include a feedback system of audit findings to the senior management of the competent authority to ensure implementation of corrective actions as necessary;

(6) a person or group of persons ultimately responsible to the senior management of the competent authority for the compliance monitoring function.

(b) The competent authority shall, for each field of activity, including management system, appoint one or more persons with the overall responsibility for the management of the relevant task(s).

(c) The competent authority shall establish procedures for participation in a mutual exchange of all necessary information and assistance with other competent authorities concerned, including all findings raised and follow-up actions taken as a result of oversight of persons and organisations exercising activities in the territory of a Member State, but certified by the competent authority of another Member State or the Agency.

(d) A copy of the procedures related to the management system and their amendments shall be made available to the Agency for the purpose of standardisation and to the organisations subject to this Regulation, if so requested.

CAMO.B.205 Allocation of tasks to qualified entities

Regulation (EU) 2019/1383

(a) Tasks related to the initial certification, or continuing oversight of persons, or organisations subject to Regulation (EU) 2018/1139 and its delegated and implementing acts may be allocated by Member States only to qualified entities. When allocating tasks, the competent authority shall ensure that it has:

(1) put a system in place to initially and continuously assess that the qualified entity complies with Annex VI 'Essential requirements for qualified entities' to Regulation (EU) 2018/1139. This system and the results of the assessments shall be documented;

(2) established a documented agreement with the qualified entity, approved by both parties at the appropriate management level, which clearly defines:

(i) the tasks to be performed;

(ii) the declarations, reports, and records to be provided;

(iii) the technical conditions to be met in performing such tasks;

(iv) the related liability coverage;

(v) the protection given to information acquired in carrying out such tasks.

(b) The competent authority shall ensure that the internal audit process and safety risk management process required by point (a)(5) of point CAMO.B.200 covers all certification, or continuing oversight tasks performed on its behalf.

CAMO.B.210 Changes in the management system

Regulation (EU) 2019/1383

(a) The competent authority shall have a system in place to identify changes that affect its capability to perform its tasks and discharge its responsibilities as defined in Regulation (EU) 2018/1139 and its delegated and implementing acts. This system shall enable it to take action as appropriate to ensure that its management system remains adequate and effective.

(b) The competent authority shall update its management system to reflect any change to Regulation (EU) 2018/1139 and its delegated and implementing acts in a timely manner, so as to ensure effective implementation.

(c) The competent authority shall notify the Agency of changes affecting its capability to perform its tasks and discharge its responsibilities as defined in Regulation (EU) 2018/1139 and its delegated and implementing acts.

CAMO.B.220 Record-keeping

Regulation (EU) 2019/1383

(a) The competent authority shall establish a system of record-keeping that allows adequate storage, accessibility, and reliable traceability of:

(1) the management system's documented policies and procedures;

(2) training, qualification, and authorisation of its personnel;

(3) the allocation of tasks, covering the elements required by point CAMO.B.205, as well as the details of tasks allocated;

(4) certification processes and continuing oversight of certified organisations, including:

(i) the application for an organisation certificate;

(ii) the competent authority's continuing oversight programme, including all assessment, audit and inspection records;

(iii) the organisation certificate, including any changes thereto;

(iv) a copy of the oversight programme listing the dates when audits are due and when audits were carried out;

(v) copies of all formal correspondence;

(vi) details of findings, corrective actions, date of action closure, any exemption and enforcement actions;

(vii) any assessment, audit and inspection reports issued by another competent authority pursuant to point (d) of point CAMO.B.300;

(viii) copies of all organisation CAMEs or manuals and amendments thereto;

(ix) copies of any other document approved by the competent authority;

(5) the evaluation and notification to the Agency of alternative means of compliance proposed by organisations, and the assessment of alternative means of compliance used by the competent authority itself;

(6) safety information and follow-up measures in accordance with point CAMO.B.125;

(7) the use of flexibility provisions in accordance with Regulation (EU) 2018/1139 and its delegated and implementing acts.

(b) The competent authority shall maintain a list of all organisation certificates it issued.

(c) All records referred to in points (a) and (b) shall be kept for a minimum period of 5 years subject to applicable data protection law.

(d) All records referred to in points (a) and (b) shall be made available upon request to a competent authority of another Member State or the Agency.

CAMO.B.300 Oversight principles

Regulation (EU) 2019/1383

(a) The competent authority shall verify:

(1) compliance with the requirements applicable to organisations prior to the issue of an organisation certificate, as applicable;

(2) continued compliance with the applicable requirements of organisations it has certified;

(3) implementation of appropriate safety measures mandated by the competent authority as defined in points (c) and (d) of point CAMO.B.135.

(b) This verification shall:

(1) be supported by documentation specifically intended to provide personnel responsible for safety oversight with guidance to perform their functions;

(2) provide the organisations concerned with the results of safety oversight activity;

(3) be based on assessments, audits and inspections, including unannounced inspections;

(4) provide the competent authority with the evidence needed in case further action is required, including the measures provided for in point CAMO.B.350 'Findings and corrective actions'.

(c) The scope of oversight defined in points (a) and (b) shall take into account the results of past oversight activities and the safety priorities.

(d) Where organisation facilities are located in more than one State, the competent authority as defined in point CAMO.A.105 may agree to have oversight tasks performed by the competent authority(ies) of the Member State(s) where facilities are located, or by the Agency for facilities located in a third country. Any organisation subject to such agreement shall be informed of its existence and of its scope.

(e) For oversight performed at facilities located in another State, the competent authority as defined in point CAMO.A.105 shall inform the competent authority of such State, or the Agency for facilities of organisations having their principal place of business in a third country, before performing any on-site audit or inspection of such facilities.

(f) The competent authority shall collect and process any information deemed useful for oversight, including for unannounced inspections.

CAMO.B.305 Oversight programme

Regulation (EU) 2019/1383

(a) The competent authority shall establish and maintain an oversight programme covering the oversight activities required by point CAMO.B.300.

(b) The oversight programme shall be developed taking into account the specific nature of the organisation, the complexity of its activities, the results of past certification and/or oversight activities, and shall be based on the assessment of associated risks. It shall include within each oversight planning cycle:

(1) assessments, audits and inspections, including unannounced inspections and, as applicable:

(i) management system assessments and process audits;

(ii) product audits of a relevant sample of aircraft managed by the organisation;

(iii) sampling of airworthiness reviews performed;

(iv) sampling of permits to fly issued;

(2) meetings convened between the accountable manager and the competent authority to ensure both remain informed of significant issues.

(c) For organisations certified by the competent authority, an oversight planning cycle not exceeding 24 months shall be applied.

(d) Notwithstanding point (c), the oversight planning cycle may be extended up to 36 months if the competent authority has established that during the previous 24 months:

(1) the organisation has demonstrated an effective identification of aviation safety hazards and management of associated risks;

(2) the organisation has continuously demonstrated under point CAMO.A.130 that it has full control over all changes;

(3) no level 1 findings have been issued;

(4) all corrective actions have been implemented within the time period accepted or extended by the competent authority as defined in point CAMO.B.350.

Notwithstanding point (c), the oversight planning cycle may be further extended to a maximum of 48 months if, in addition to the conditions provided in points (1) to (4) of the first subparagraph, the organisation has established, and the competent authority has approved, an effective continuous reporting system to the competent authority on the safety performance and regulatory compliance of the organisation itself.

(e) The oversight planning cycle may be reduced if there is any evidence that the safety performance of the organisation has decreased.

(f) The oversight programme shall include records of the dates when audits, inspections and meetings are due, and when such audits, inspections and meetings have been carried out.

(g) At the completion of each oversight planning cycle, the competent authority shall issue a recommendation report on the continuation of the approval reflecting the results of oversight.

CAMO.B.310 Initial certification procedure

Regulation (EU) 2019/1383

(a) Upon receiving an application for the initial issue of a certificate for an organisation, the competent authority shall verify the organisation's compliance with the applicable requirements.

(b) A meeting with the accountable manager of the organisation shall be convened at least once during the investigation for initial certification to ensure that he/she fully understands the significance of the certification process and the reason for signing the statement of the organisation to comply with the procedures specified in the CAME.

(c) The competent authority shall record all findings, closure actions (actions required to close a finding) and recommendations.

(d) The competent authority shall confirm in writing all the findings raised during the verification to the organisation. For initial certification, all findings must be corrected to the satisfaction of the competent authority before the certificate can be issued.

(e) When satisfied that the organisation complies with the applicable requirements, the competent authority shall:

(1) issue the certificate as established in Appendix I 'EASA Form 14' to this Annex;

(2) formally approve the CAME.

(f) The certificate reference number shall be included on the EASA Form 14 certificate in a manner specified by the Agency.

(g) The certificate shall be issued for an unlimited duration. The privileges, scope of the activities that the organisation is approved to conduct, including any limitations as applicable, shall be specified in the terms of approval attached to the certificate.

(h) To enable the organisation to implement changes without prior competent authority approval in accordance with point (c) of point CAMO.A.130, the competent authority shall approve the relevant CAME procedure defining the scope of such changes and describing how such changes will be managed and notified.

CAMO.B.330 Changes

Regulation (EU) 2019/1383

(a) Upon receiving an application for a change that requires prior approval, the competent authority shall verify the organisation's compliance with the applicable requirements before issuing the approval.

(b) The competent authority shall establish the conditions under which the organisation may operate during the change unless the competent authority determines that the organisation's certificate needs to be suspended.

(c) When satisfied that the organisation complies with the applicable requirements, the competent authority shall approve the change.

(d) Without prejudice to any additional enforcement measures, when the organisation implements changes requiring prior approval without having received competent authority approval pursuant to point (c), the competent authority shall suspend, limit or revoke the organisation's certificate.

(e) For changes not requiring prior approval, the competent authority shall assess the information provided in the notification sent by the organisation in accordance with point (c) of point CAMO.A.130 to verify compliance with the applicable requirements. In case of any non-compliance, the competent authority shall:

(1) notify the organisation about the non-compliance and request further changes;

(2) in case of level 1 or level 2 findings, act in accordance with point CAMO.B.350.

CAMO.B.350 Findings and corrective actions

Regulation (EU) 2019/1383

(a) The competent authority shall have a system to analyse findings for their safety significance.

(b) A level 1 finding shall be issued by the competent authority when any significant non-compliance is detected with the applicable requirements of Regulation (EU) 2018/1139 and its delegated and implementing acts, with the organisation's procedures and manuals, or with the terms of an approval or certificate which lowers safety or seriously endangers flight safety.

The level 1 findings shall include:

(1) failure to give the competent authority access to the organisation's facilities as defined in point CAMO.A.140 during normal operating hours and after two written requests;

(2) obtaining or maintaining the validity of the organisation certificate by falsification of submitted documentary evidence;

(3) evidence of malpractice or fraudulent use of the organisation certificate;

(4) the lack of an accountable manager.

(c) A level 2 finding shall be issued by the competent authority when any non-compliance is detected with the applicable requirements of Regulation (EU) 2018/1139 and its delegated and implementing acts, with the organisation's procedures and manuals, or with the terms of an approval or certificate which may lower safety or endanger flight safety.

(d) When a finding is detected during oversight or by any other means, the competent authority shall, without prejudice to any additional action required by Regulation (EU) 2018/1139 and its delegated and implementing acts, communicate the finding to the organisation in writing, and request corrective action to address the non-compliance(s) identified. Where a finding directly relates to an aircraft, the competent authority shall inform the State in which the aircraft is registered.

(1) In the case of level 1 findings, the competent authority shall take immediate and appropriate action to prohibit or limit activities and, if appropriate, it shall take action to revoke the certificate or to limit or suspend it in whole or in part, depending upon the extent of the level 1 finding until successful corrective action has been taken by the organisation.

(2) In the case of level 2 findings, the competent authority shall:

(i) grant the organisation a corrective action implementation period appropriate to the nature of the finding, that in any case initially shall not be more than 3 months. It shall commence from the date of the written communication of the finding to the organisation, requesting corrective action to address the non-compliance identified. At the end of this period, and subject to the nature of the finding and past safety performance of the organisation, the competent authority may extend the 3-month period subject to a satisfactory corrective action plan agreed by the competent authority;

(ii) assess the corrective action and implementation plan proposed by the organisation, and if the assessment concludes that they are sufficient to address the non-compliance(s), accept these.

(3) Where an organisation fails to submit an acceptable corrective action plan, or to perform the corrective action within the time period accepted or extended by the competent authority, the finding shall be raised to a level 1 finding and action taken as laid down in point (d)(1).

(4) The competent authority shall record all findings it has raised or that have been communicated to it in accordance with point (e) and, where applicable, the enforcement measures it has applied, as well as all corrective actions and date of action closure for findings.

(e) Without prejudice to any additional enforcement measures, when the authority of a Member State acting under the provisions of point (d) of point CAMO.B.300 identifies any non-compliance with the applicable requirements of Regulation (EU) 2018/1139 and its delegated and implementing acts by an organisation certified by the competent authority of another Member State or the Agency, it shall inform that competent authority and provide an indication of the level of finding.

CAMO.B.355 Suspension, limitation and revocation

Regulation (EU) 2019/1383

The competent authority shall:

(a) suspend a certificate on reasonable grounds in the case of potential safety threat;

(b) suspend, revoke or limit a certificate pursuant to point CAMO.B.350;

(c) suspend certificate in case the competent authority's inspectors are unable over a period of 24 months to discharge their oversight responsibilities through on-site audit(s) due to the security situation in the State where the facilities are located.

APPENDICES TO ANNEX Vc (PART-CAMO)

Appendix I — Continuing Airworthiness Management Organisation Certificate – EASA Form 14

Regulation (EU) 2019/1383

[MEMBER STATE (*)]
A Member of the European Union (**)

CONTINUING AIRWORTHINESS MANAGEMENT ORGANISATION CERTIFICATE

Reference: [MEMBER STATE CODE *].CAMO.XXXX (Ref.: AOC XX.XXXX)

Pursuant to Regulation (EU) 2018/1139 of the European Parliament and of the Council of 4 July 2018 on common rules in the field of civil aviation and establishing a European Union Aviation Safety Agency and to Commission Regulation (EU) No 1321/2014 and subject to the conditions specified below, the [COMPETENT AUTHORITY OF THE MEMBER STATE*] hereby certifies:

[COMPANY NAME AND ADDRESS]

as a continuing airworthiness management organisation in compliance with Section A of Annex Vc (Part-CAMO) to Commission Regulation (EU) No 1321/2014.

CONDITIONS:

1. This certificate is limited to the scope specified in the scope of work section of the approved continuing airworthiness management exposition (CAME) as referred to in Section A of Annex Vc (Part-CAMO) to Commission Regulation (EU) No 1321/2014.
2. This certificate requires compliance with the procedures specified in the CAME approved in accordance with Annex Vc (Part-CAMO) to Commission Regulation (EU) No 1321/2014.
3. This certificate is valid whilst the approved continuing airworthiness management organisation remains in compliance with Annex I (Part-M), Annex Vb (Part-ML) and Annex Vc (Part-CAMO) to Commission Regulation (EU) No 1321/2014.
4. Where the continuing airworthiness management organisation subcontracts under its management system the service of an (several) organisation(s), this certificate remains valid subject to such organisation(s) fulfilling the applicable contractual obligations.
5. Subject to compliance with the conditions 1 to 4 above, this certificate shall remain valid for an unlimited duration unless the certificate has previously been surrendered superseded, suspended or revoked.

If this form is also used for air operator certificate (AOC) holders (air carriers licensed in accordance with Regulation (EC) No 1008/2008), the AOC number shall be added to the reference, in addition to the standard number, and condition No 5 shall be replaced with the following additional conditions:

6. This certificate does not constitute an authorisation to operate the types of aircraft referred to in condition No 1. The authorisation to operate the aircraft is the AOC.
7. Termination, suspension or revocation of the AOC of a air carrier licensed in accordance with Regulation (EC) No 1008/2008 automatically invalidates the present certificate in relation to the aircraft registrations specified in the AOC, unless otherwise explicitly sated by the competent authority.
8. Subject to compliance with the previous conditions, this certificate shall remain valid for an unlimited duration unless the certificate has previously been surrendered, superseded, suspended or revoked.

Date of original issue: ……

Signed: ……

Date of this revision: ……Revision No: ……

For the competent authority: [COMPETENT AUTHORITY OF THE MEMBER STATE (*)]
Page … of …

(*) or 'EASA', if EASA is the competent authority.

CONTINUING AIRWORTHINESS MANAGEMENT ORGANISATION

TERMS OF APPROVAL

Reference: [MEMBER STATE CODE *].CAMO.XXXX
(ref. AOC XX.XXXX)

Organisation: [COMPANY NAME AND ADDRESS]

Aircraft type/series/group	Airworthiness review authorised	Permits to fly authorised	Subcontracted organisations
	[YES/NO] ***	[YES/NO] ***	
	[YES/NO] ***	[YES/NO] ***	
	[YES/NO] ***	[YES/NO] ***	
	[YES/NO] ***	[YES/NO] ***	

The terms of approval are limited to the scope of work contained in the approved CAME section……

CAME reference: ……

Date of original issue: ……

Signed: ……

Date of this revision: …… Revision No: ……

For the Competent Authority: [COMPETENT AUTHORITY OF THE MEMBER STATE *]

EASA Form 14 Issue 4

(*) or 'EASA', if EASA is the competent authority

(**) delete for non-EU Member State or EASA

(***) delete as appropriate if the organisation is not approved.

ANNEX VD (PART-CAO)

GENERAL

CAO.1 General

Regulation (EU) 2019/1383

For the purpose of this Annex (Part-CAO):

(1) the competent authority shall be:

(a) for organisations having their principal place of business in a Member State, the authority designated by that Member State;

(b) for organisations having their principal place of business in a third country, the Agency.

(2) 'owner' means the person responsible for the continuing airworthiness of the aircraft, including the following persons:

(i) the registered owner of the aircraft;

(ii) the lessee in the case of a leasing contract;

(iii) the operator.

SECTION A — ORGANISATION REQUIREMENTS

CAO.A.010 Scope

Regulation (EU) 2019/1383

This Annex establishes the requirements to be met by a combined airworthiness organisation (CAO) in order to be issued, upon application, an approval for the maintenance and continuing airworthiness management of aircraft and components for installation thereon, and to continue carrying out those activities, where such aircraft are not classified as complex motor-powered aircraft and are not listed in the air operator certificate of an air carrier licensed in accordance with Regulation (EC) No 1008/2008.

CAO.A.015 Application

Regulation (EU) 2019/1383

CAOs shall apply for the issuance of, or change to, a CAO approval to the competent authority in a form and manner established by that authority.

CAO.A.017 Means of compliance

Regulation (EU) 2020/270

(a) Alternative means of compliance to the acceptable means of compliance adopted by the Agency may be used by an organisation to demonstrate compliance with Regulation (EU) 2018/1139 and its delegated and implementing acts.

(b) When an organisation wishes to use alternative means of compliance, it shall, prior to using it, provide the competent authority with a full description of those alternative means of compliance. That description shall include an assessment demonstrating compliance of alternative means of compliance with Regulation (EU) 2018/1139 and its delegated and implementing acts.

The organisation may use those alternative means of compliance subject to prior approval by the competent authority, and upon receipt of the notification as provided for in point CAO.B.017.

CAO.A.020 Terms of approval

Regulation (EU) 2019/1383

(a) The CAO shall specify the approved scope of work in its combined airworthiness exposition (CAE), as provided for in point CAO.A.025.

(1) For aeroplanes of more than 2 730 kg maximum take-off mass (MTOM) and for helicopters of more than 1 200 kg MTOM or certified for more than 4 occupants, the scope of work shall indicate the particular aircraft types. Changes to this scope of work shall be approved by the competent authority in accordance with point (a) of point CAO.A.105 and point (a) of point CAO.B.065.

(2) For complete turbine engines, the scope of work shall indicate the engine manufacturer or group or series or type or the maintenance task(s). Changes to this scope of work shall be approved by the competent authority in accordance with point (a) of point CAO.A.105 and point (a) of point CAO.B.065.

(3) A CAO which employs only one person for both planning and carrying out of all maintenance tasks cannot hold privileges for the maintenance of:

(a) aeroplanes equipped with a turbine engine (in the case of aircraft-rated organisations);

(b) helicopters equipped with a turbine engine or with more than one piston engine (in the case of aircraft-rated organisations);

(c) complete piston engines of 450 HP and above (in the case of engine-rated organisations); and

(d) complete turbine engines (in the case of engine-rated organisations).

(4) For aircraft other than those mentioned in point (1), for components different from complete turbine engines and for non-destructive testing (NDT)-specialised services, the scope of work shall be controlled by the CAO in accordance with the procedure set out in point (a)(11) of point CAO.A.025. For maintenance of components different from complete engines, the scope of work shall be classified in accordance with the following system ratings:

(i) C1: air conditioning and pressurisation;

(ii) C2: auto flight;

(iii) C3: communications and navigation;

(iv) C4: doors and hatches;

(v) C5: electrical power and lights;

(vi) C6: equipment;

(vii) C7: engine;

(viii) C8: flight controls;

(ix) C9: fuel;

(x) C10: helicopter and rotors;

(xi) C11: helicopter transmission;

(xii) C12: hydraulic power;

(xiii) C13: indicating and recording system;

(xiv) C14: landing gear;

(xv) C15: oxygen;

(xvi) C16: propellers;

(xvii) C17: pneumatic and vacuum systems;

(xviii) C18: protection from ice/rain/fire;

(xix) C19: windows;

(xx) C20: structural;

(xxi) C21: water ballast; and

(xxii) C22: propulsion augmentation.

Organisations obtaining an approval in accordance with this Annex on the basis of an existing organisation approval issued in accordance with Subpart G or Subpart F of Annex I (Part-M) or Annex II (Part-145) in accordance with paragraph 4 of Article 4, shall include in the scope of work all the necessary details to ensure that the privileges are identical to the ones included in the existing approval.

(b) The CAO approval shall be issued on the basis of the template set out in Appendix I to this Annex.

(c) A CAO may fabricate, in conformity with maintenance data, a restricted range of parts for use in the course of undergoing work within its own facilities, as indicated in their CAE.

CAO.A.025 Combined airworthiness exposition

Regulation (EU) 2019/1383

(a) The CAO shall provide a manual containing at least the following information:

(1) a statement signed by the accountable manager confirming that the organisation will at all times work in accordance with the requirements of this Annex and the CAE;

(2) the CAE's scope of work;

(3) the title(s) and name(s) of the person(s) referred to in points (a) and (b) of point CAO.A.035;

(4) an organisation chart showing the chains of responsibility between the person(s) referred to in points (a) and (b) of CAO.A.035;

(5) a list of certifying staff with their scope of approval, if such staff exist;

(6) a list of staff responsible for the development and approval of aircraft maintenance programmes (AMPs) with their scope of approval, if such staff exist;

(7) a list of airworthiness review staff with their scope of approval, if such staff exist;

(8) a list of staff responsible for the issuance of permits to fly, if such staff exist;

(9) a general description and location of the facilities;

(10) procedures specifying how the CAO shall ensure compliance with the requirements of this Annex;

(11) the CAE amendment procedure, as provided for in point (b) of point CAO.A.105.

(b) The initial CAE shall be approved by the competent authority.

(c) Amendments to the CAE shall be handled in accordance with point CAO.A.105.

CAO.A.030 Facilities

Regulation (EU) 2019/1383

The CAO shall ensure that all necessary facilities, including adequate office accommodation are provided for it to be able to carry out all the planned work.

In addition, where the scope of approval of the organisation includes maintenance activities, the CAO shall ensure that:

(a) specialised workshops, hangars and bays provide adequate protection from contamination and the environment;

(b) secure storage facilities are provided for components, equipment, tools and material, under conditions ensuring that unserviceable components and materials are segregated from all other components, material, equipment and tools, that the manufacturer's instructions for storage are complied with and that access to the storage facilities is restricted to authorised personnel.

CAO.A.035 Personnel requirements

Regulation (EU) 2019/1383

(a) The CAO shall appoint an accountable manager, who shall have an authority for ensuring that all activities of the organisation can be financed so that those activities are carried out in accordance with the requirements of this Annex.

(b) The accountable manager shall nominate a person or group of persons who shall be responsible for ensuring that the CAO is always in compliance with the requirements of this Annex. Those person(s) shall ultimately be responsible to the accountable manager.

(c) All persons referred to in point (b) shall have the relevant knowledge, background and experience related to continuing airworthiness management or maintenance, as appropriate for their functions.

(d) The CAO shall have sufficient appropriately qualified staff for it to be able to carry out the planned work. The CAO shall be entitled to use temporarily subcontracted staff.

(e) The CAO shall assess and record the qualification of all personnel.

(f) Personnel who carry out specialised tasks, such as welding, or non-destructive testing ('NDT') inspection other than colour contrast inspections shall be qualified in accordance with an officially-recognised standard

CAO.A.040 Certifying staff

Regulation (EU) 2019/1383

(a) Certifying staff shall comply with the requirements of Article 5. They shall only exercise their privileges to release maintenance if the CAO has ensured:

(1) that these certifying staff meet the requirements of point (b) of point 66.A.20 of Annex III (Part-66) except when paragraph 6 of Article 5 refers to a national regulation of a Member State, in which case, they shall meet the requirements of such a regulation;

(2) that these certifying staff have an adequate understanding of the relevant aircraft or aircraft component(s) to be maintained, or both, as well as of the organisation procedures required to perform such maintenance.

(b) By derogation from point (a), in unforeseen circumstances where an aircraft is grounded at a location other than the main base where no appropriate certifying staff are available, the CAO contracted to provide maintenance support may issue a one-off certification authorisation, alternatively:

(1) to one of their employees holding type qualifications for aircraft of similar technology, construction and systems;

(2) to any person with no less than 3 years of maintenance experience and holding a valid ICAO aircraft maintenance licence rated for the aircraft type requiring certification, provided that there is no organisation approved in accordance with this Annex at that location and that the contracted CAO obtains and holds on file evidence of the experience and licence of that person.

The issuance of a one-off certification authorisation shall be reported by the CAO to the competent authority within 7 days of the issuance. The CAO issuing the one-off certification authorisation shall ensure that any such maintenance that could affect flight safety is rechecked.

(c) By derogation from point (a), the CAO may use certifying staff qualified in accordance with the following requirements when providing maintenance support to operators involved in commercial operations, subject to appropriate procedures to be approved as part of the CAE:

(1) for a repetitive preflight airworthiness directive (AD) which specifically states that the flight crew may carry out such an AD, the CAO may issue a limited certifying-staff authorisation to the pilot-in-command on the basis of the flight crew licence held, provided that the CAO ensures that sufficient practical training has been carried out by the pilot-in-command so he/she can accomplish the AD to the required standard;

(2) in the case of aircraft operating away from a supported location, the CAO may issue a limited certifying-staff authorisation to the pilot-in-command, on the basis of the flight crew licence held, provided that the organisation ensures that sufficient practical training has been carried out so that such a commander can accomplish the task to the required standard.

(d) The CAO shall record the details concerning certifying staff and maintain an up-to-date list of all certifying staff, together with details on their scope of approval, as part of the organisation's exposition.

CAO.A.045 Airworthiness review staff

Regulation (EU) 2019/1383

(a) In order for it to be approved to carry out airworthiness reviews and, if applicable, to issue permits to fly, a CAO shall have appropriate airworthiness review staff who shall comply with all of the following requirements:

(1) they acquired experience in continuing airworthiness of at least 1 year for sailplanes and balloons and of at least 3 years for all other aircraft;

(2) they hold an appropriate licence issued in accordance with Article 5 of this Regulation or an aeronautical degree or equivalent or experience in continuing airworthiness in addition to the referred to in point (1) of at least 2 years for sailplanes and balloons and at least 4 years for all other aircraft;

(3) they acquired appropriate aeronautical-maintenance training.

(b) Before the CAO issues an authorisation to an airworthiness review staff to perform airworthiness review, the CAO shall nominate the person who will perform an airworthiness review of an aircraft under supervision of the competent authority or under the supervision of a person already authorised as airworthiness review staff of the CAO. If this supervision is satisfactory, the competent authority shall formally accept the staff to become airworthiness review staff.

(c) The CAO shall ensure that its airworthiness review staff can demonstrate appropriate recent continuing airworthiness experience.

(d) Each airworthiness review staff shall be identified in the CAE in a list that contains the airworthiness review authorisation referred in point (b).

(e) The CAO shall maintain a record of all its airworthiness review staff, which shall include details of any appropriate qualification and a summary of relevant continuing airworthiness experience and training of the person concerned, as well as a copy of his or her authorisation. It shall retain that record for a period of at least 2 years after the date at which the person concerned no longer works for the CAO.

CAO.A.050 Components, equipment and tools

Regulation (EU) 2019/1383

(a) The CAO shall:

(1) hold the equipment and tools specified in the maintenance data provided for in point CAO.A.055, or verified equivalents as listed in the CAE, as necessary for day-to-day maintenance within the scope of the organisation's approval;

(2) have a procedure to ensure that it has access to all other equipment and tools necessary to carry out its work, used only on an occasional basis, where needed.

(b) The CAO shall ensure that the tools and equipment it uses are controlled and calibrated to an officially recognised standard. It shall keep records of such calibrations and the standards used and comply with point CAO.A.090.

(c) The CAO shall inspect, classify and appropriately segregate all incoming components in accordance with points M.A.501 and M.A.504 of Annex I (Part-M) or with points ML.A.501 and ML.A.504 of Annex Vb (Part-ML), as applicable.

CAO.A.055 Maintenance data and work orders

Regulation (EU) 2019/1383

(a) The CAO shall hold and use applicable current maintenance data specified in point M.A.401 of Annex I (Part-M) or in point ML.A.401 of Annex Vb (Part-ML), as applicable, in the performance of maintenance, including modifications and repairs. However, in the case of customer-provided maintenance data, it shall only be required to hold such data when the work is in progress.

(b) Before the commencement of maintenance, a written work order shall be agreed between the CAO and the person or organisation requesting maintenance, in a manner that clearly establishes the maintenance to be carried out.

CAO.A.060 Maintenance standards

Regulation (EU) 2019/1383

When performing maintenance, the CAO shall comply with all of the following requirements:

(a) ensure that any person performing maintenance is qualified in accordance with the requirements of this Annex;

(b) ensure that the area in which maintenance is carried out is well organised and clean (no dirt or contamination);

(c) use the methods, techniques, standards and instructions specified in the maintenance data and work orders referred to in point CAO.A.055;

(d) use the tools, equipment and material specified in point CAO.A.050;

(e) ensure that maintenance is performed in accordance with any environmental limitations specified in the maintenance data referred to in point CAO.A.055;

(f) ensure that proper facilities are used in case of inclement weather or lengthy maintenance;

(g) ensure that the risk of multiple errors during maintenance and the risk of errors being repeated in identical maintenance tasks are minimised;

(h) ensure that an error-capturing method is implemented after the performance of any critical maintenance task;

(i) perform a general verification after completion of maintenance in order to ensure that the aircraft or component is clear of all tools, equipment and any extraneous parts and material and that all access panels removed have been refitted;

(j) ensure that all maintenance performed is properly recorded and documented.

CAO.A.065 Aircraft certificate of release to service

Regulation (EU) 2019/1383

At the completion of any aircraft maintenance carried out in accordance with this Annex, an aircraft CRS shall be issued in accordance with point M.A.801 of Annex I (Part-M) or point ML.A.801 of Annex Vb (Part-ML), as applicable.

CAO.A.070 Component certificate of release to service

Regulation (EU) 2019/1383

(a) At the completion of all component maintenance in accordance with this Annex, a component CRS shall be issued in accordance with point M.A.802 of Annex I (Part-M) or point ML.A.802 of Annex Vb (Part-ML), as applicable. An EASA Form 1 shall be issued in accordance with Appendix II to Annex I (Part-M), except as provided for in points (b) or (d) of point M.A.502 of Annex I (Part-M) and point ML.A.502 of Annex Vb (Part-ML) and for components fabricated in accordance with point (c) of point CAO.A.020.

(b) The EASA Form 1 referred to in point (a) may be generated from a computer database.

CAO.A.075 Continuing-airworthiness management

Regulation (EU) 2019/1383

(a) All continuing airworthiness management shall be carried out in accordance with the requirements of Subpart C of Annex I (Part-M) or Subpart C of Annex Vb (Part-ML), as applicable.

(b) For every aircraft managed, the CAO shall:

(1) develop and control the AMP for the aircraft managed and:

(i) in the case of aircraft complying with Annex Vb (Part-ML), approve the AMP and its amendments, or

(ii) in the case of aircraft complying with Annex I (Part-M), present the AMP and its amendments to the competent authority for approval, unless the approval is covered by an indirect approval procedure in accordance with point (c) of point M.A.302 of Annex I (Part-M);

(2) provide a copy of the AMP to the owner;

(3) ensure that data used for any modification and repairs complies with points M.A.304 or ML.A.304, as applicable;

(4) ensure that all maintenance is performed in accordance with the AMP and released in accordance with Section A, Subpart H of Annex I (Part-M), Section A of Annex II (Part-145) or Section A, Subpart H of Annex Vb (Part-ML), as applicable;

(5) ensure that all applicable ADs and all operational directives with a continuing airworthiness impact are implemented;

(6) ensure that all defects discovered during maintenance or reported are corrected by an appropriately approved maintenance organisation or by independent certifying staff;

(7) ensure that the aircraft is brought for maintenance to an appropriately approved organisation or to independent certifying staff, whenever necessary;

(8) coordinate the scheduled maintenance, application of ADs, replacement of service-life-limited parts and component inspection in order to ensure the work is carried out properly;

(9) manage and archive all continuing-airworthiness records and, if applicable, the aircraft technical log;

(10) ensure that the mass-and-balance statement reflects the current status of the aircraft.

CAO.A.080 Continuing airworthiness management data

Regulation (EU) 2020/270

The CAO shall hold and use applicable current maintenance data specified in point M.A.401 of Annex I (Part-M) or point ML.A.401 of Annex Vb (Part-ML), as applicable, for the performance of the continuing airworthiness management tasks referred to in point CAO.A.075 of this Annex (Part-CAO). That data may be provided by the owner, subject to a contract as referred in points M.A.201(h)(2) or M.A.201(i)(1) or M.A.201(i)(3) of Annex I (Part-M), or points ML.A.201(e)(1) or ML.A.201(f) of Annex Vb (Part-ML), in which case the CAO only needs to hold such data for the duration of the contract, unless where it is to retain the data pursuant to point CAO.A.090(b) of this Annex (Part-CAO).

CAO.A.085 Airworthiness review

Regulation (EU) 2020/270

The CAO shall perform any airworthiness reviews in accordance with point M.A.901 of Annex I (Part-M) or point ML.A.903 of Annex Vb (Part-ML), as applicable.

CAO.A.090 Record-keeping

Regulation (EU) 2019/1383

(a) The CAO shall retain the following records:

(1) the maintenance records necessary to demonstrate that all requirements of this Annex have been met for the issuance of the CRS, including the subcontractor's release documents; the CAO shall provide a copy of each CRS to the owner of the aircraft, together with a copy of any specific repair or modification data used for the repairs or modifications carried out;

(2) the continuing airworthiness management records required by any of the following:

(i) point M.A.305 and, if applicable, point M.A.306 of Annex I (Part-M);

(ii) point ML.A.305 of Annex Vb (Part-ML);

(3) where the CAO has the privilege referred to in point (c) of point CAO.A.095, it shall retain a copy of each airworthiness review certificate (ARC) issued in accordance with point (a) of point ML.A.901 of Annex Vb (Part-ML) and recommendation issued or, as applicable, extended, together with all supporting documents;

(4) where the CAO has the privilege referred to in point (d) of point CAO.A.095, it shall retain a copy of each permit to fly issued in accordance with point 21.A.729 of Annex I (Part-21) to Regulation (EU) No 748/2012.

(b) The CAO shall retain a copy of the records described in point (a)(1), and any associated maintenance data, for a period of 3 years from the date at which it released to service the aircraft or aircraft component to which the work relates.

(c) The CAO shall retain a copy of the records referred to in points (a)(2) to (a)(4) for a period of 2 years from the date at which the aircraft has been permanently withdrawn from service.

(d) All records shall be stored in a manner that ensures protection from damage, alteration and theft.

(e) All computer hardware used for backup of the maintenance records shall be stored in a different location from that containing those data and in an environment that ensures that they remain in good condition.

(f) Where the continuing airworthiness management of an aircraft is transferred to another organisation or person, all the records retained under points (a)(2) to (a)(4) shall be transferred to that organisation or person. From the moment of the transfer, points (b) and (c) shall apply to that organisation or person.

(g) Where the CAO terminates its operation, all retained records shall be transferred as follows:

(1) the records referred to in point (a)(1) shall be transferred to the last owner or customer of the respective aircraft or component or shall be stored as specified by the competent authority;

(2) the records referred to in point (a)(2) to (a)(4) shall be transferred to the owner of the aircraft.

CAO.A.095 Privileges of the organisation

Regulation (EU) 2020/270

The CAO shall have the following privileges:

(a) Maintenance

(1) Maintain any aircraft or component for which it is approved at the locations specified in the approval certificate and the CAE.

(2) Arrange for the performance of specialised services at another organisation appropriately qualified under the control of the CAO, in accordance with the appropriate procedures set out in the CAE and approved by the competent authority.

(3) Maintain any aircraft or component for which it is approved at any location, where the need of such maintenance arises either from the unserviceability of the aircraft or the need for supporting occasional maintenance, in accordance with the conditions specified in the CAE.

(4) Issue certificates of release to service upon completion of maintenance, in accordance with point CAO.A.065 or CAO.A.070.

(b) Continuing airworthiness management

(1) Manage the continuing airworthiness of any aircraft for which it is approved.

(2) Approve the AMP, in accordance with point (b)(2) of point ML.A.302, for aircraft managed in accordance with Annex Vb (Part-ML).

(3) Carry out limited continuing airworthiness tasks with any contracted organisation working under their quality system, as listed on the approval certificate.

(4) Extend, in accordance with point M.A.901(f) of Annex I (Part-M) or point ML.A.901(c) of Annex Vb (Part-ML), an ARC that has been issued by the competent authority, another organisation or person as applicable.

(c) Airworthiness review:

(1) A CAO with its principal place of business in one of the Member States, the approval of which includes the privileges referred to in point (b), may be approved to carry out airworthiness reviews in accordance with point M.A.901 of Annex I (Part-M) or point ML.A.903 of Annex Vb (Part-ML), as applicable, and:

(i) issue the related ARC or recommendation for the issuance of the ARC;

(ii) extend the validity of an existing ARC.

(2) A CAO with its principal place of business in one of the Member States, the approval of which includes the privileges referred to in point (a), may be approved to carry out airworthiness reviews in accordance with point ML.A.903 of Annex Vb (Part-ML) and issue the related ARC.

(d) Permit to fly

A CAO with its principal place of business in one of the Member States, the approval of which includes the privileges referred to in point (c), may be approved to issue a permit to fly in accordance with point (d) of point 21.A.711 of Annex I (Part-21) to Regulation (EU) No 748/2012 for those aircraft for which it can issue the ARC when it attests conformity with the approved flight conditions, in accordance with an adequate procedure provided for in the CAE.

(e) A CAO may be approved for one or more privileges.

CAO.A.100 Quality system and organisational review

Regulation (EU) 2019/1383

(a) To ensure that the CAO continues to meet the requirements of this Annex, this organisation shall establish a quality system and designate a quality manager.

(b) The quality system shall monitor the carrying out of the activities of the organisation covered by this Annex. It shall monitor in particular:

(1) that all those activities are performed in accordance with the approved procedures;

(2) that all contracted maintenance tasks are carried out in accordance with the contract;

(3) that the organisation continues to comply with the requirements of this Annex.

(c) The records of that monitoring shall be retained for at least the previous 2 years.

(d) Where the organisation holding a CAO approval is additionally approved in accordance with an Annex other than this Annex, the quality system may be combined with that required by the other Annex.

(e) A CAO shall be considered as a small CAO when one of the following condition is met:

(1) the scope of the CAO does only contain aircraft covered by Part-ML.

(2) the CAO does not exceed 10 full-time equivalent staff involved in maintenance.

(3) the CAO does not exceed 5 full-time equivalent staff involved in continuing airworthiness management.

(f) In the case of a small CAO, the quality system may be replaced by regular organisational reviews, subject to the approval of the competent authority. In that case, the CAO shall not contract continuing airworthiness management tasks to other parties.

CAO.A.105 Changes to the organisation

Regulation (EU) 2019/1383

(a) In order to enable the competent authority to determine continued compliance with this Part, the approved maintenance organisation shall notify it of any proposal to carry out any of the following changes, before such changes take place:

(1) changes affecting the information contained in the approval certificate laid down in Appendix I and the terms of approval of this Annex;

(2) changes of the persons referred to in points CAO.A.035(a) and (b);

(3) changes in the aircraft types covered by the scope of work referred to in point (a)(1) of point CAO.A.020 in the case of aeroplanes of more than 2 730 kg maximum take-off mass (MTOM) and in the case of helicopters of more than 1 200 kg MTOM or certified for more than 4 occupants;

(4) changes in the scope of work referred to in point (a)(2) of CAO.A.020 in the case of complete turbine engines;

(5) changes in the control procedure set out in point (b) of this point.

(b) Any other changes in locations, facilities, equipment, tools, material, procedures, scope of work and staff shall be controlled by the CAO through a control procedure provided for in the CAE. The CAO shall submit a description of those changes and the corresponding CAE amendments to the competent authority within 15 days from the day on which the change took place.

CAO.A.110 Continued validity

Regulation (EU) 2019/1383

(a) An approval shall be issued for an unlimited duration and shall remain valid subject to:

(1) the organisation remaining in compliance with the requirements of this Annex, in particular how the findings are handled in accordance with point CAO.A.115;

(2) the competent authority being granted access to the organisation to determine continued compliance with the requirements of this Annex;

(3) the competent authority not having surrendered or revoked the approval.

(b) Upon surrender or revocation of the approval, the organisation shall return the approval certificate to the competent authority.

CAO.A.115 Findings

Regulation (EU) 2019/1383

(a) A Level 1 finding is any significant non-compliance with Part-CAO requirements which lowers the safety standard and seriously hazards flight safety.

(b) A Level 2 finding is any non-compliance with the Part-CAO requirements which may lower the safety standard and possibly hazard flight safety.

(c) After receiving a notification of a finding in accordance with point CAO.B.060, the CAO shall adopt a corrective action plan and demonstrate to the satisfaction of the competent authority that it has taken the necessary corrective action to address the finding within the time period set by that authority.

SECTION B — AUTHORITY REQUIREMENTS

CAO.B.010 Scope

Regulation (EU) 2019/1383

This Section establishes the administrative requirements to be met by the competent authorities in connection to the requirements for organisations set out in Section A.

CAO.B.017 Means of compliance

Regulation (EU) 2019/1383

(a) The Agency shall develop Acceptable Means of Compliance ('AMC') that may be used to demonstrate compliance with Regulation (EU) 2018/1139 and its delegated and implementing acts.

(b) Alternative means of compliance may be used to demonstrate compliance with Regulation (EU) 2018/1139 and its delegated and implementing acts

(c) The competent authority shall establish a system to consistently evaluate that all alternative means of compliance used by organisations under its oversight allow for the establishment of compliance with Regulation (EU) No 2018/1139 and its delegated and implementing acts.

(d) The competent authority shall evaluate all alternative means of compliance proposed by an organisation in accordance with point CAO.A.017 by analysing the documentation provided and, if considered necessary, conducting an inspection of the organisation.

When the competent authority finds that the alternative means of compliance are in accordance with Regulation (EU) 2018/1139 and its delegated and implementing acts, it shall without undue delay:

(1) notify the applicant that the alternative means of compliance may be used and, if applicable, amend the approval or certificate of the applicant accordingly;

(2) notify the Agency of their content, including copies of all relevant documentation.

CAO.B.020 Record-keeping

Regulation (EU) 2019/1383

(a) The competent authority shall establish a system of record-keeping that allows adequate traceability of the process to keep the records for issuing, continuing, changing, suspending or revoking each issued certificate.

(b) The records of the competent authority for the oversight of organisations approved in accordance with this Annex shall include, as a minimum:

(1) the application for an organisation approval;

(2) the organisation approval certificate, including any changes thereto;

(3) a copy of the audit programme of the organisation, listing the dates at which audits were carried out and when they are due;

(4) the continuing-oversight records, including all audit records, as provide for in point CAO.B.055;

(5) all findings, actions required to close the findings and recommendations;

(6) copies of all relevant correspondence with the organisation;

(7) details of any exemption in accordance with point CAO.B.035 and enforcement actions;

(8) any report from other competent authorities relating to the oversight of the organisation;

(9) CAE and its amendments;

(10) copies of any other document approved by the competent authority.

(c) The retention period for the records listed under point (b) shall be at least 5 years.

(d) All records shall be made available to the competent authority of another Member State or the Agency, upon request.

CAO.B.025 Mutual exchange of information

Regulation (EU) 2019/1383

(a) Where necessary for the performance of their tasks under this Regulation, the competent authorities shall exchange information.

(b) In the case of a potential safety threat involving several Member States, the competent authorities concerned shall assist each other in carrying out the necessary oversight action.

CAO.B.030 Responsibilities

Regulation (EU) 2019/1383

The competent authority shall conduct the necessary inspections and investigations in order to verify and ensure that the organisations for which it is responsible in accordance with point CAO.1 meets the requirements of Section A of this Annex.

CAO.B.035 Exemptions

Regulation (EU) 2019/1383

Where a Member State grants an exemption from the requirements of this Annex in accordance with paragraph 2 of Article 71 of Regulation (EU) 2018/1139, the competent authority shall record the exemption. It shall retain those records as provided for in point (b)(6) of point CAO.B.020.

CAO.B.040 Application

Regulation (EU) 2019/1383

Where facilities of the CAO are located in more than one Member State, the initial certification procedure and continued oversight of the approval shall be carried out in cooperation with the competent authorities designated by the Member States in whose territory the other facilities are located.

CAO.B.045 Initial certification procedure

Regulation (EU) 2020/270

(a) Where it has been established that the organisation meets the requirements laid down in points (a) and (b) of CAO.A.035, the competent authority shall formally notify the applicant about the acceptance of the personnel.

(b) The competent authority shall ensure that the procedures specified in the CAE comply with Section A, and that the accountable manager has signed the commitment statement referred to in point (a)(1) of CAO.A.025.

(c) The competent authority shall verify that the organisation complies with Section A.

(d) The competent authority shall convene a meeting with the accountable manager at least once during the investigation for approval to ensure that he or she fully understand the significance of the approval and the statement referred to in point (a)(1) of CAO.A.025

(e) All findings in accordance with point CAO.B.060 shall be confirmed in writing to the applicant organisation.

(g) Before issuing the approval the competent authority shall close all be findings after the organisation has corrected them.

CAO.B.050 Issuance of the initial certificate

Regulation (EU) 2020/270

(a) Where the competent authority has established that the applicant complies with point CAO.B.045, it shall issue the certificate, using the EASA Form 3-CAO template laid down in Appendix I and specifying the terms of approval.

(b) The competent authority shall include the reference number of the CAO as specified in the EASA Form 3-CAO template laid down in Appendix I.

CAO.B.055 Continuing oversight

Regulation (EU) 2019/1383

(a) The competent authority shall establish and keep up-to-date, an oversight programme, specifying all CAOs to which it has issued a certificate and the dates at which it has audited and is scheduled to audit those CAOs.

(b) The competent authority shall audit, at, periods not exceeding 24 months each CAO to which it has issued an approval. Those audits shall concentrate, in particular, on the changes to the organisation notified to it in accordance with the procedure specified in point (b) of point CAO.A.105.

(c) A relevant sample of the aircraft managed by the CAO, if the organisation is approved to do so, shall be surveyed at every 24-month period. The size of the sample shall be decided by the competent authority based on the result of prior audits and earlier product surveys.

(d) The competent authority shall confirm in writing any finding during those audits to the CAO.

(e) The competent authority shall record any findings during those audits, any actions required to close the findings and any recommendations issued.

(f) The competent authority shall convey a meeting with the accountable manager of the CAO at least once every 24 months.

CAO.B.060 Findings

Regulation (EU) 2019/1383

(a) When during audits or by any other means, evidence is found showing non-compliance to the Part-CAO requirements, the competent authority shall take the following actions:

(1) for Level 1 findings, immediate action shall be taken by the competent authority to revoke, limit or suspend in whole or in part, depending upon the extent of the Level 1 finding, the CAO approval, until successful corrective action has been taken by the organisation; and

(2) for Level 2 findings, the competent authority shall grant a corrective action period of no more than 3 months, appropriate to the nature of the finding — in certain circumstances, at the end of this first period and subject to the nature of the finding, the competent authority can extend this 3-month period subject to a satisfactory corrective action plan.

(b) Action shall be taken by the competent authority to suspend in whole or in part the approval in case of failure to comply within the timescale set out by the competent authority.

CAO.B.065 Changes

Regulation (EU) 2019/1383

(a) Upon receiving an application for a change in accordance with point (a) of point CAO.A.105, the competent authority shall verify the organisation's compliance with the applicable requirements before issuing the approval of the change.

(b) The competent authority may indicate the conditions under which the CAO shall operate during the change unless the competent authority determines that the organisation's certificate shall be suspended because of the nature or extent of the changes.

(c) For changes not requiring prior approval, the competent authority shall assess during the oversight activities that the CAO complies with the approved control procedure provided for in point (b) of point CAO.A.105 and complies with the applicable requirements.

CAO.B.070 Suspension, limitation and revocation

Regulation (EU) 2019/1383

The competent authority shall:

(a) suspend an approval on reasonable grounds in the case of a potential safety threat; or

(b) suspend, revoke or limit an approval pursuant to point CAO.B.060.

APPENDICES TO ANNEX Vd (Part-CAO)

Appendix I — Combined airworthiness organisation (CAO) certificate - EASA Form 3-CAO

Regulation (EU) 2020/270

(a) Within the approval class(es) and rating(s) established by the competent authority, the scope of work specified in the CAE defines the exact limits of approval. It is therefore essential that the approval class(es) and rating(s) and the organisations scope of work are matching.

(b) An aircraft rating, in relation to the maintenance privileges, means that the CAO may carry out maintenance on the aircraft and any component (including engines), in accordance with aircraft maintenance data or, if agreed by the competent authority, in accordance with component maintenance data, only whilst such components are fitted to the aircraft. Nevertheless, such aircraft-rated CAO may temporarily remove a component for maintenance in order to improve access to that component except when such removal creates the need for additional maintenance not eligible for the requirements of point (b). This will be subject to a control procedure in the CAE to be approved by the competent authority.

(c) An engine rating (turbine, piston or electrical) means that the CAO may carry out maintenance on the uninstalled engine and engine components, in accordance with engine maintenance data or, if agreed by the competent authority, in accordance with component maintenance data, only whilst such components are fitted to the engine. Nevertheless, such engine-rated CAO may temporarily remove a component for maintenance in order to improve access to that component except when such removal creates the need for additional maintenance not eligible for the requirements of point (c). An engine-rated CAO may also carry out maintenance on an installed engine during base and line maintenance subject to a control procedure in the CAE to be approved by the competent authority.

(d) A component rating (other-than-complete engines) means that the CAO may carry out maintenance on uninstalled components (excluding complete engines) intended for fitment to the aircraft or engine. This CAO may also carry out maintenance on an installed component (other-than-complete engines) during base and line maintenance or at an engine maintenance facility subject to a control procedure in the CAE to be approved by the competent authority.

(e) An non-destructive testing (NDT) rating is a self-contained rating not necessarily related to a specific aircraft, engine or other component. The NDT rating is only necessary for a CAO that carries out NDT as a particular task for another organisation. A CAO approved with an aircraft, engine or component rating may carry out NDT on products they are maintaining subject to the CAE containing NDT procedures, without the need for an NDT rating.

[MEMBER STATE (*)]
A Member of the European Union (**)

COMBINED AIRWORTHINESS ORGANISATION CERTIFICATE

Reference: [MEMBER STATE CODE (*)].CAO.[XXXX]

Pursuant to Regulation (EU) 2018/1139 of the European Parliament and of the Council of 4 July 2018 on common rules in the field of civil aviation and establishing a European Union Aviation Safety Agency and to Regulation (EU) No 1321/2014 and subject to the conditions specified below, the [COMPETENT AUTHORITY OF THE MEMBER STATE (*)] hereby certifies:

[COMPANY NAME AND ADDRESS]

as a combined airworthiness organisation in compliance with Section A of Annex Vd (Part-CAO) TO Regulation (EU) No 1321/2014.

CONDITIONS:

(a) this approval is limited to that specified in the terms of approval attached, and in the 'Scope of work' Section of the approved combined airworthiness exposition, as referred to in Section Vd (Part-CAO) to Regulation (EU) No 1321/2014; and

(b) this approval requires compliance with the procedures specified in the approved combined airworthiness exposition; and

(c) this approval is valid whilst the approved combined airworthiness organisation remains in compliance with Annex Vd (Part-CAO) to Regulation (EU) No 1321/2014; and

(d) where the approved combined airworthiness organisation contract out, under their quality system, the service of one or several organisations, this approval remains valid subject to such organisation(s) fulfilling applicable contractual obligations; and

(e) subject to compliance with the foregoing conditions, this approval shall remain valid for an unlimited duration unless the approval has previously been surrendered, superseded, suspended or revoked.

Date of original issue of the approval certificate: .....

Date of this revision of the approval certificate: .....

Revision No: .....

Signed: .....

For the competent authority: [COMPETENT AUTHORITY OF THE MEMBER STATE (*)]

(*) or EASA if EASA is the competent authority

(**) delete for non-EU Member States or EASA.

EASA Form 3-CAO, Issue 1

COMBINED AIRWORTHINESS ORGANISATION TERMS OF APPROVAL

Reference: [MEMBER STATE CODE (*)].CAO.XXXX

Organisation: [COMPANY NAME AND ADDRESS]

CLASS	RATING	PRIVILEGES(***)
AIRCRAFT (**)	Aeroplanes — other-than-complex motor-powered aircraft (**)	□ Maintenance □ Continuing-airworthiness management □ Airworthiness review □ Permit to fly
	Aeroplanes up to 2 730 kg maximum take-off mass (MTOM) (**)	□ Maintenance □ Continuing-airworthiness management □ Airworthiness review □ Permit to fly
	Helicopters — other-than-complex motor-powered aircraft (**)	□ Maintenance □ Continuing-airworthiness management □ Airworthiness review □ Permit to fly
	Helicopters up to 1 200 kg MTOM, certified for a maximum of up to 4 occupants (**)	□ Maintenance □ Continuing-airworthiness management □ Airworthiness review □ Permit to fly
	Airships (**)	□ Maintenance □ Continuing-airworthiness management □ Airworthiness review □ Permit to fly
	Balloons (**)	□ Maintenance □ Continuing-airworthiness management □ Airworthiness review □ Permit to fly
	Sailplanes (**)	□ Maintenance □ Continuing-airworthiness management □ Airworthiness review □ Permit to fly
COMPONENTS (**)	Complete turbine engines (**)	□ Maintenance
	Complete piston engines (**)	
	Electrical engines (**)	
	Components other than complete engines (**)	
SPECIALISED SERVICES (**)	Non-destructive testing (NDT) (**)	□ NDT

LIMITATIONS **(to be included only for organisations rated for aeroplanes, helicopters or complete engines, if they only have one person planning and performing all maintenance tasks)**
The following maintenance is excluded from the scope of work (***): — maintenance on aeroplanes equipped with a turbine engine; — maintenance on helicopters equipped with a turbine engine or with more than one piston engine; and — maintenance on complete piston engines of 450 HP and above, and on complete turbine engines.

List of organisation(s) working under a quality system (***)

These terms of approval are limited to the products, parts and appliances, and to the activities specified in the 'Scope of work' Section of the approved combined airworthiness exposition,
Combined airworthiness exposition reference: .....

Date of original issue of the exposition: .....

Date of last revision approved: .....Revision No: .....

Signed: .....

For the competent authority: [COMPETENT AUTHORITY OF THE MEMBER STATE (*)]

(*) or EASA if EASA is the competent authority

(**) delete as appropriate if the organisation is not approved.

(***) complete as appropriate

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