



NPA2012-15

Part-66

B2L and L licences

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Current regulation

→ Regulation (EU)1149/2011 amending Regulation (EC) 2042/2003: :

- Published on the Official Journal on 16 November 2011.
- Entry into Force on 17 November 2011.
- Applies as of 01 August 2012, except the opt-out to continue using national licences for piston-engine non-pressurised airplanes of 2000 Kg MTOM and below not used in CAT, which applied as of 17 November 2011.
- Article 5, paragraph 6 allows the continuation of the national licensing/qualification systems for aircraft other than aeroplanes and helicopters (sailplanes, powered sailplanes, balloons and airships) until Part-66 covers such requirements.



Current regulation (opt-outs)

→ Piston-engine non pressurised aeroplanes of 2000 Kg MTOM and below, when not used in CAT (Article 7.3(h)):

- **After 28 Sept. 2012**, mandatory to comply with Part-66 for new and converted licences.
- **After 28 Sept. 2014**, mandatory for certifying staff to have a Part-66 licence (new or converted). **This means a B1.2 or B3, and B2.**

NOTE: Only national qualifications obtained prior to 28 Sept. 2012 can be converted to a B3 licence. For these conversions, the new regulation of converting privileges applies.

→ For ELA1 aeroplanes, when not used in CAT (Article 7.3(i)):

- **After 28 Sept. 2015**, mandatory to comply with Part-66 for new and converted licences and mandatory for certifying staff to have a Part-66 licence (new or converted).

NOTE: This would mean a B1.2 or B3, and B2. However, this date has been set having in mind that the Agency will issue a new Opinion (as requested by the Commission) for a simplified licence for ELA1 aeroplanes and for aircraft other than aeroplanes and helicopters (one of the objectives of this NPA).



Current regulation (ELA1 and ELA2 definitions)

“ELA1 aircraft” means the following manned European Light Aircraft:

- (i) an aeroplane with a Maximum Take-off Mass (MTOM) of **1200 kg** or less that is not classified as complex motor-powered aircraft;
- (ii) a sailplane or powered sailplane of **1200 kg** MTOM or less;
- (iii) a balloon with a maximum design lifting gas or hot air volume of not more than 3400 m³ for hot air balloons, 1050 m³ for gas balloons, 300 m³ for tethered gas balloons;
- (iv) an airship designed for not more than **four occupants** and a maximum design lifting gas or hot air volume of not more than **3400 m³** for hot air airships and 1000 m³ for gas airships;

This definition was adopted in Regulation (EU) 593/2012 (dated 05 July 2012) and is not subject to discussion in this NPA.



Definitions of ELA1 and ELA2

“ELA2 aircraft” means the following manned European Light Aircraft:

- (i) an aeroplane with a Maximum Take-off Mass (MTOM) of 2000 kg or less that is not classified as complex motor-powered aircraft;
- (ii) a sailplane or powered sailplane of 2000 kg MTOM or less;
- (iii) a balloon;
- (iv) a hot air ship;
- (v) a gas airship meeting all of the following elements:
 - - 3% maximum static heaviness,
 - - Non-vectored thrust (except reverse thrust),
 - - Conventional and simple design of: structure, control system and ballonet system
 - - Non-power assisted controls;
- (vi) a Very Light Rotorcraft.

This definition was adopted in Regulation (EU) 748/2012 (dated 03 August 2012). It is introduced in the NPA in order to incorporate it into (EU) 2042/2003 but its content is not subject to discussion in this NPA.



B2L licence

- **Category B2L licence**



B2L licence

Current situation:

- ➔ The current B2 licence is complex for General Aviation, with a significant amount of material being not relevant.
 - New engineers doing self-study have serious difficulties passing the exams for Module 13, since they don't have any experience of the complex systems applicable to larger aircraft.
 - The option of performing the Basic Course in a Part-147 organisation is too expensive for General Aviation organisations.
 - Once they get the B2 licence, they are likely to leave the General Aviation sector in favor of airlines and large maintenance organisations.

- ➔ This problem may not be too serious yet as many of today's Avionics Engineers are working with converted licences (from their previous national qualifications). However, as these engineers are steadily reaching the retirement age, the amount of engineers is decreasing.



B2L licence

Proposed solution:

A modular B2L licence which can be further upgraded to cover more complex systems, ultimately reaching the B2 licence.

The B2L licence is applicable to all aircraft other than those in Group 1 and is divided in the following 'system ratings' (see 66.A.3):

- communication/navigation (com/nav)
- instruments
- autoflight
- surveillance
- airframe systems

NOTE: The B2L licence shall contain, as a minimum, one system rating (see 66.A.3), with any combination being possible (see GM 66.A.3).



B2L licence

What does it mean “all aircraft other than those in Group 1”:

(See 66.A.5)

Group 1:

- complex motor-powered aircraft
- multiple engine helicopters
- aeroplanes with maximum certified operating altitude exceeding FL290
- aircraft equipped with fly-by-wire systems
- **gas airships above ELA2**
- other aircraft requiring an aircraft type rating when defined so by the Agency.

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

- **sub-group 2a:** single turbo-propeller engine aeroplanes
- **sub-group 2b:** single turbine engine helicopters
- **sub-group 2c:** single piston engine helicopters

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

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



B2L licence

Privileges: (see [66.A.20\(a\)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; and
- 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 powerplant and mechanical systems, requiring only simple tests to prove their serviceability.



B2L licence

Basic knowledge: (see 66.A.25(d))

- **Content for courses and examinations:** According to Appendix I to Part-66
- **Course (optional):** Imparted by Part-147 organisations. Duration according to Appendix I to Part-147:
1500h + 90h (Com/Nav) + 55h (Instruments) + 80h (Autoflight) + 40h (Surveillance) + 100h (Airframe systems)
- **Examinations:** Conducted by Part-147 organisations or by the NAA issuing the licence, following the standard described in Appendix II to Part-66.



B2L licence

Basic knowledge: (see [Appendix I to Part-66](#))

Modules 1 through 10: Identical to B2 and applicable to all system ratings.

Module 13:

- Subjects related to the different “system ratings” have been grouped;
- Subjects related to systems not currently used in aircraft under 5700 Kg have not been made applicable to the B2L licence.
Examples:
 - Autothrottle, Microwave Landing systems, VLF/Omega, Doppler Navigation, On-board maintenance system, Integrated modular avionics, Cabin systems, Entertainment systems, Information systems;

Module 14: Identical to B2 but only applicable to system ratings “Instruments” and “Airframe systems”.



B2L licence

Basic knowledge: (see [Appendix I to Part-66](#))

MODULE 13. Aircraft Aerodynamics, Structures and Systems.

13.1 and 13.2: unchanged

13.3 Autoflight (ATA22): has been split into

- 13.3(a)
- 13.3(b)

13.4 Com/Nav (ATA22): has been split into

- 13.4(a)
- 13.4(b)
- 13.4(c)

13.5 to 13.22 unchanged



B2L licence

Module/sub-modules	B2	B2L
13.1 and 13.2	X	X
13.3(a)	X	'Autoflight'
13.3(b)	X	
13.4(a)	X	'Com/Nav'
13.4(b)	X	'Surveillance'
13.4(c)	X	
13.5	X	X
13.6	X	
13.7	X	'Autoflight'
13.8	X	'Instruments'
13.9	X	X
13.10	X	
13.11 through 13.18	X	'Airframe systems'
13.19 through 13.22	X	
14	X	'Instruments' and 'Airframe systems'



B2L licence

Basic experience: (see 66.A.30(a)3)

The experience required is lower than for the B2 licence:

- (i) **three years** of practical maintenance experience on operating aircraft, covering the corresponding system rating(s), if the applicant has no previous relevant technical training; or
- (ii) **two years** of practical maintenance experience on 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) **one year** of practical maintenance experience on operating aircraft, covering the corresponding system rating(s), and completion of a Part -147 approved basic training course.

Note: For the addition of 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.



B2L licence

Aircraft ratings: (see 66.A.45)

- 1. For group 2 aircraft, manufacturer sub-group rating or full sub-group rating.
- 2. For group 3 aircraft, the full group rating.
- 3. For group 4 aircraft, the full group rating.

The holder of a B2L licence, endorsed with a full sub-group 2b (single turbine engine helicopters) is entitled to be endorsed with a full sub-group 2c (single piston engine helicopters) (see 66.A.45(e)4)

The holder of a B2L licence, endorsed with a full sub-group 2a or 2b is entitled to be endorsed with groups 3 (piston engine aeroplanes other than those in Group 1) and 4 (sailplanes, powered sailplanes, balloons and airships, other than those in Group 1) (see 66.A.45(f)3)



B2L licence

Upgrade of an existing B2L licence:

- **For the addition of new system rating(s) to an existing B2L licence:**
 - Examination of the additional basic knowledge sub-modules corresponding to the new system rating (see 66.A.25(d)), and
 - 3 months of practical maintenance experience relevant to the new system rating(s) for each system rating added (see 66.A.30(a)3)

- **For the upgrade to a full B2 licence: (see 66.B.110(c))**
 - Examination of the additional basic knowledge modules/sub-modules for the B2 licence (see 66.A.25(d)), and
 - 1 year of practical experience on operating aircraft corresponding to the B2 category (see Appendix IV to Part-66)



L licence

- **Category L licence**



L licence

Background:

In 2009, the Agency proposed to the Commission a B3 and a L licence through Opinion 04/2009;

- the B3 licence was adopted in Regulation (EU) 1149/2011,
- However, the L licence was found too complex with regard to:
 - the number of levels (basic and full levels),
 - the number of ratings (8 and 10 respectively)

and the Agency was tasked by the Commission to resubmit a new opinion with a more simple and proportionate system.

This NPA is the first step in this direction.



L licence

→ **Sub-categories:** (see 66.A.3)

- L1: sailplanes,
- L2: powered sailplanes and ELA1 aeroplanes,
- L3: balloons,
- L4: hot air airships and ELA2 gas airships,
- L5: gas airships above ELA2.

Sub-category L2 includes L1. Any limitation to the sub-category L2 becomes applicable to the L1. (see 66.A.20(a)6)



L licence

Privileges: (see 66.A.20(a)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 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.

Sub-category L2 includes sub-category L1. Any limitation to the sub-category L2 becomes applicable to the sub-category L1.



L licence

Basic knowledge: (see 66.A.25(b) and (c))

- **Content for courses and examinations:** According to Appendix VII to Part-66
- **Course (optional):** Imparted by Part-147 organisations or as approved by the competent authority issuing the licence. Duration according to Appendix VII to Part-66:
 - L1 licence: 205h
 - L2 licence: 250h
 - L3 licence: 125h
 - L4 licence: 200h
 - L5 licence:
 - 77h for the holder of a B1.2 or B1.4
 - 122h for the holder of a B1.1 or B1.3
- **Examinations:** Conducted by Part-147 organisations, by the competent authority issuing the licence or as approved by the competent authority issuing the licence, following the standard described in Appendix VIII to Part-66.



L licence

Basic knowledge: (see Appendix VII to Part-66)

Sub-categories	Modules required for each sub-category
L1: Sailplanes	1 to 7, 9 and 13
L2: Powered sailplanes and ELA1 aeroplanes	1 to 7, 8, 9 and 13
L3: Balloons	1, 2, 3, 9, 10, 11 and 13
L4: Hot air airships and ELA 2 gas airships	1, 2, 3, 8, 9, 10, 11,12 and 13
L5: Gas airships above ELA2	Basic Knowledge requirements of any B1 sub-category plus 8 (for B1.1 and B1.3) and 11, 12 and 13



L licence

Basic knowledge: (see Appendix VII to Part-66)

Module Designation	Duration (hours)
1 'Basic knowledge'	10
2 'Human factors'	7
3 'Legislation'	19
4 'Airframe-Wooden / Metal tube and fabric'	30
5 'Airframe-Composite'	30
6 'Airframe-Metal'	30
7 'Airframe-General'	54
8 'Powerplant'	45
9 'Procedures of Physical Inspection'	10
10 'Balloon/Airship-Hot air'	32
11 'Balloon/Airship-Gas (free/tethered)'	32
12 'Airships-Hot air/Gas'	30
13 'Radio-Comm/Transponder'	15



L licence

Basic experience: (see 66.A.30(a)4)

- 1 year of experience, if basic training and basic examination was performed per 66.A.25(b). For the addition of a new sub-category only 6 months of additional practical experience are required (plus basic training and basic examination).
- 2 years of experience, if only basic examination was performed by 66.A.25(c). For the addition of a new sub-category 1 year of additional practical experience are required (plus basic examination)



L licence

Aircraft ratings and limitations: (see 66.A.45)

- L1: rating "sailplanes"
- L2: rating "powered sailplanes and ELA1 aeroplanes"
- L3: rating "balloons"
- L4: rating "hot air airships and ELA2 gas airships"
- L5: the appropriate airship type rating (this is a Group 1 aircraft)

Aircraft ratings for L1, L2, L3 and L4 are endorsed based on experience, with the corresponding limitations in the areas where experience is not shown.



L licence

Aircraft ratings and limitations: (see 66.A.45)

→ **Limitations for L1 "sailplanes" and L2 "powered sailplanes and ELA1 aeroplanes":**

Wooden structure aircraft

Aircraft with metal tubing structure covered with fabric

Metal structure aircraft

Composite structure aircraft

→ **Limitations for L3 "balloons":**

Hot air

ELA1 gas balloons

ELA2 gas balloons

→ **Limitations for L4 "hot air airships and ELA2 gas airships"**

Hot air

Gas



L licence

Credits for holding other licence categories/sub-categories:

- Sub-category L2 “powered sailplanes and ELA1 aeroplanes” includes sub-category L1 “sailplanes”. Any limitation to the sub-category L2 becomes applicable to the L1. (see [66.A.20\(a\)6](#))

- Holders of B1.2 or B3 licences meet the basic knowledge and basic experience requirements for the issuance of an L1 and L2 licence (see [66.A.25\(b\)](#) and [66.A.30\(a\)4](#)) without ratings. In addition, if the B1.2 license has the rating “*Group 3 aircraft*” or the B3 licence has the rating “*piston-engine non-pressurised aeroplanes of 2000 Kg MTOM and below*” then the ratings “sailplanes” and “powered sailplanes and ELA1 aeroplanes” shall be endorsed on the L1/L2 licences with the same limitations contained in the B1.2/B3 licence already held. (see [66.A.45\(h\)2](#) and [66.B.110\(d\)](#))

- The basic knowledge requirements of sub-category L4 include the basic knowledge requirements of sub-category L3. (see [66.A.25\(b\)](#))