

EASA summary: 'Privileges of Part-66 license holders to release to service ELA1 airplanes with electrical propulsion.'

Introduction:

1. The Agency certified in June 2020 aircraft model Virus SW 128 (commercial designation: Velis Electro). This is a model belonging to the [aircraft type Virus SW 121](#) (TC holder Pipistrel Vertical Solutions d.o.o.). Model SW 128 has a battery and an electrical engine as a propulsion system. It has a MTOM of 600 kg.
2. The Agency has been asked which certifying staff was entitled to release to service the maintenance on this aircraft type and in particular, if certifying staff with license in categories B1.2 and B3 could release to service maintenance done on the aircraft.

Analysis:

With regards to the licenses in subcategory L2:

3. Annex III (Part-66) of Regulation (EU) 1321/2014 was amended by Regulation (EU) 2018/1142, introducing new categories of Part-66 licenses for light aircraft. In particular subcategory L2 covers 'powered sailplanes and ELA1 airplanes', as stated in 66.A.3.
4. In order to obtain the license in subcategory L2, the applicant has to demonstrate by examination basic knowledge as set in the relevant modules referred to in Appendix VII of Part-66. Among these modules, module 8. 'Powerplant' contains the submodule 8L.19 'electrical propulsion', required to be known with a 'Level 2', as defined in Appendix I to Part-66.
5. The contents of the 8L.19 submodule are:
 - 8L.19 Electrical propulsion
 - Energy system, accumulators, installation;
 - Electrical motor;
 - 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.
6. 66.A.30 (2b) states that the applicant for a license in subcategory L2 shall have acquired 2 years of practical maintenance experience in operating aircraft covering a representative cross section of maintenance activities in the corresponding subcategory;

7. 66.A.45 states that in order to exercise the license privileges the rating for a license in subcategory L2 is 'powered sailplanes and ELA1 aeroplanes', which requires demonstration of practical experience that includes a representative cross section of maintenance activities relevant to the licence subcategory. If evidence of appropriate experience is not provided, some limitations defined in 66.A.45 should be endorsed on the license.
8. In accordance with 66.B.100, the competent authority shall issue the relevant aircraft maintenance licence to the applicant, once verified the documentation provided with the application.
9. The privileges of license holders in subcategory L2 include, refer to 66.A.20, *to issue certificates of release to service for maintenance performed on aircraft structure, power plant and mechanical and electrical systems.*
10. 66.A.20 (b) contains the following caveat: *'The holder of an aircraft maintenance licence may not exercise its privileges unless he/she has the adequate competence to certify maintenance on the corresponding aircraft'*.
11. From the above, subject to the caveat of the previous paragraph, it can be deduced that the holder of a Part-66 license in subcategory L2 can release to service any aircraft maintenance done on an airplane of MTOM of 1200 kg or below with an electrical propulsion, when done in accordance with the rest of the Annexes of (EU) 1321/2014.

With regards to licenses in B1.2 and B3 categories:

12. In accordance with 66.A.3, within B1 category there is the subcategory B1.2 - Aeroplanes Piston; and category B3 is applicable to 'piston-engine non-pressurised aeroplanes of 2000 kg Maximum Take-off Mass (MTOM) and below'.
13. In accordance with 66.A.25 the applicants of licenses in categories B1.2 and B3 have to demonstrate by examination basic knowledge of, in regards of aircraft propulsion, only module 16 'Piston Engine'. There is no basic module in regards of 'Electric Engine' for these (sub)categories.
14. In accordance with 66.A.45, the *endorsement of full Group 3 rating in a license with subcategory B1.2 requires demonstration of practical experience, which shall include a representative cross section of maintenance activities relevant to the licence category and to Group 3.* Group 3 is defined in 66.A.5 as 'piston engine aeroplanes other than those in Group 1'. It cannot be expected that the applicant of a license in subcategory B1.2 has accumulated any experience on aircraft with electrical propulsion.
15. In accordance with 66.A.45, for a license with B3 category, endorsement of rating *'piston engine non-pressurised aeroplanes of 2000 kg MTOM and below' requires demonstration of practical experience, which shall include a representative cross section of maintenance activities relevant to the licence category.* It cannot be expected that the applicant of a license in category B3 has accumulated any experience on aircraft with electrical propulsion.
16. Notwithstanding paragraphs 11 to 15:
 - 66.A.25 (Basic knowledge requirements) states *'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 [...] L2';*

- 66.A.30 (Basic experience requirements) states *'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 [...] L2.'*
 - 66.A.45 (Endorsement with aircraft ratings) states *'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 2000 kg MTOM and below', is deemed to meet the requirements for the issuance of a licence in subcategories [...] L2 with the corresponding full ratings and with the same limitations as the B1.2/B3 licence held.'*
 - 66.B.110 (Procedure for the change of an aircraft maintenance licence to include an additional basic category or subcategory) states *'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 2000 kg MTOM and below', the competent authority shall issue, upon application, a fully rated licence in subcategories [...] L2, with the same limitations as the B1.2/B3 licence held.'*
17. The above paragraph entitles Part-66 license holders with subcategories B1.2 and B3, endorsed with Group 3 rating or 'piston engine non-pressurised aeroplanes of 2000 kg MTOM and below' respectively, to obtain, upon application, the L2 subcategory fully rated in their license, without any additional demonstration.
18. Once the L2 subcategory fully rated is added in the license, its holder is entitled to release to service any aircraft maintenance done in an airplane of MTOM of 1200 kg or below, including those with electrical propulsion, when done in accordance with the rest of the Annexes of (EU) 1321/2014 and subject to 66.A.20(b) caveat.

Conclusion:

19. Part-66 license holders with the subcategory L2 properly rated ('powered sailplanes and ELA1 aeroplanes') are entitled to release to service any aircraft maintenance performed on aeroplanes of MTOM of 1200 kg or below with electrical propulsion, when in compliance with 66.A.20(b) and the applicable requirements of other Annexes in (EU)1321/2014. Pipistrel SW 128 model fits into this set of aeroplanes.
20. Part-66 license holders with the subcategory B1.2 and B3, respectively rated with Group 3 and 'piston engine non-pressurised aeroplanes of 2000 kg MTOM and below' and without limitations on their licenses, may apply to their competent authority and obtain without any further showing, the L2 subcategory fully rated (powered sailplanes and ELA1 aeroplanes) included in their license, given them the privilege referred in the paragraph just above.