



Opinion 05 / 2009

Task 66.006: Privileges of B1 and B2 aircraft maintenance licences

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Current privileges

According to 66.A.20:

Category B1 AML: Certification privileges on aircraft structure, powerplant and mechanical and electrical systems. Also replacement of avionic Line Replaceable Units (LRUs) requiring simple tests to prove their serviceability.

Category B2 AML: Certification privileges on avionic and electrical systems



Current privileges

GM 66.A.20(a) states:

“The category B1 license also permits the certification of work involving avionic systems, providing the serviceability of the system can be established by a simple self-test facility, other on-board test systems/equipment or by simple ramp test equipment.

Defect rectification involving test equipment which requires an element of decision making in its application – other than a simple go / no-go decision – cannot be certified”.

“The category B2 will need to be qualified as category A in order to carry out simple mechanical tasks and be able to make certification for such work”.



Feedback received by EASA

Feedback received by EASA indicated that the privileges of the B1 AML are not properly delimited because:

- There is no clear definition of “electrical system” and “avionic system”.
- Further clarification is needed regarding the avionic tasks that can be performed by a B1.
- Further clarification is needed of the term “simple test”.

Additional feedback suggested that the B2 AML privileges are too restricted, and that the basic training duration (2400 h) should be shorter (based on a comparison of Appendix I content for B1 and B2).



Task 66.006

- The working group 66.006 started working on July 2006 and the NPA 2007-07 was published on June 2007 (covering also tasks 66.009 and 66.011).
- The CRD was published on 5 October 2009.
- Opinion 05/2009 was published on 16 December 2009.
- Adoption by the Commission expected before end 2010.



What is an "electrical system"

➤ Revised AMC 66.A.20(a) and GM 66.A.20(a)

- ★ Electrical system: the aircraft electrical power supply source, plus the distribution system to the different components and relevant connectors. Lighting systems are also included.

The following practices are also considered as work on electrical systems when performed on cables and connectors which are part of the electrical system (tasks included in Module 7.7 of Annex I):

- ★ Continuity, insulation and bonding techniques and testing.
- ★ Crimping and testing of crimped joints.
- ★ Connector pin removal and insertion.
- ★ Wiring protection techniques.



What is an "avionic system"

➤ Revised AMC 66.A.20(a)

★ Avionic system: an aircraft system that transfers, processes, displays or stores analogue or digital data using data lines, wireless or other data transmission medium, and includes the system's components and connectors. Some example are the following:

➔ Autoflight, COM & NAV, Instruments (*), In Flight Entertainment Systems, Integrated Modular Avionics, Cabin Systems, On-board Maintenance Systems, Information Systems, Fly by Wire Systems and Fibre Optic Control Systems.

NOTE: Electro-mechanical and pitot-static instruments are considered to be within the privileges of B1 and B2.



What is a "simple test"

- Revised AMC 66.A.20(a) and GM 66.A.20(a)
 - ✧ Simple test: a test described in approved maintenance data meeting all the following criteria:
 - ➔ The serviceability of the system can be verified using aircraft controls, switches, BITE, **Central Maintenance Computer (CMC)** or external test equipment not involving special training.
 - ➔ The outcome of the test is a unique go – no go indication or parameter, which can be a single value or a value within an interval tolerance. No interpretation of the test result or interdependence of different values is allowed.
 - ➔ No more than 10 actions **as described in the approved maintenance data** (not including those required to configure the aircraft for the test, i.e. jacking, flaps down....**or to return the aircraft to the initial configuration**). **Pushing a control, switch or button, and reading the corresponding outcome may be considered as a single step even if the maintenance data shows them separated.**



Clarification of category B1 privileges

➤ Revised 66.A.20(a)2

- ✧ For B1 and B2 it has been indicated that the privileges also include acting as “support staff” (already said in 145.A.30(h)).
- ✧ For B1 "Replacement of LRUs" has been changed to a more general "work on avionic systems" (always within the "simple test" provision).
- ✧ Category B1 privileges do not include avionic troubleshooting.

➤ Revised AMC66.A.20(a)2 and GM66.A.20(a)

- ✧ Maintenance practices covered in Module 7.7 of Appendix I (Basic Knowledge requirements) are considered “electrical tasks” and they are within the B1 privileges.

This includes continuity checks, crimping, connector pin removal and insertion, wire protection, etc...



European Aviation Safety Agency

Expansion of category B2 privileges (for mechanical & powerplant systems)

➤ Revised 66.A.20(a)3

- ✧ Category B2 privileges also include certification of electrical and avionic parts within powerplant and mechanical systems, requiring simple tests to prove their serviceability



Expansion of category B2 privileges (for mechanical & powerplant systems)

- ★ Appendixes I, II and III have been revised to increase the level of training and examination in the affected modules (Appendix III coordinated with task 66.011).
- ★ Existing B2 licence holders are not mandated to take a course with the introduced differences. Will get the privileges automatically (see Item 9(a) of Article 7 “Entry into Force”).
 - ➔ It is a type of work that is currently being performed by most B2.
 - ➔ The approved maintenance organisation is responsible for assessing the competence of certifying staff before issuing the appropriate authorisation.
 - ➔ Introduced a new provision in 66.A.20(b)3 and AMC66.A.20(b)3 stating that a licence holder cannot exercise certification privileges unless they are competent to certify maintenance on the corresponding aircraft.



Expansion of category B2 privileges (Privileges similar to category A with limitations)

- Revised 66.A.20(a)3(ii) and 66.A.45(b).
 - ✦ It does not mean that the category B2 includes the corresponding sub-category A (like is the case of the B1). In fact, there are no sub-categories in B2. The reason is that the B2 syllabus does not fully cover the category A syllabus.
 - ✦ This is a privilege of the B2 licence, subject to certain conditions.



Expansion of category B2 privileges (Privileges similar to category A with limitations)

- ✦ It means that the privileges of the B2 include privileges similar to the category A (certification of minor scheduled line maintenance and simple defect rectification), with the following conditions:
 - Limited to ratings already endorsed on the B2 licence (66.A.20(a)3(ii)).
 - Performance of task training and examination plus six months of documented practical experience on the tasks that will be authorised. All must be performed (training and experience) at the Part-145 organisation that will issue the authorisation (66.A.45(b)).



Expansion of category B2 privileges (Privileges similar to category A with limitations)

AMC 66.A.45(b):

- ✦ This privilege cannot be transferred to another Part-145 organisation (task training and experience must be obtained again).
- ✦ If a B2 licence holder has a certifying authorisation category A tasks for an aircraft type, new tasks for the same type can be added with only task training (no 6 months of experience required).
- ✦ If a new type is going to be added, the 6-month experience will be required unless the aircraft is considered similar per AMC 66.A.20(b)2 to the one already held.
- ✦ If the authorisation is going to cover several aircraft types, the experience may be combined in a single 6-month period.



Expansion of category B2 privileges (Privileges similar to category A with limitations)

- ★ Existing B2 licence holders will get the privileges automatically (see Item 9(a) of Article 7 “Entry into Force”).
 - ➔ It is a type of work that is currently being performed by many B2.
 - ➔ Limited to ratings already endorsed on the B2 licence (66.A.20(a)3(ii)).
 - ➔ Performance of task training and examination plus six months of documented practical experience on the tasks that will be authorised. All must be performed (training and experience) at the Part-145 organisation that will issue the authorisation (66.A.45(b)).
 - ➔ Introduced a new provision in 66.A.20(b)3 and AMC66.A.20(b)3 stating that a licence holder cannot exercise certification privileges unless they are competent to certify maintenance on the corresponding aircraft.



Clarification of category A privileges and inclusion of new typical tasks for helicopters

- Revised AMC 145.A.30(g) to clarify category A privileges:
 - ✦ No troubleshooting should be allowed.
 - ✦ Item q) revised:
 - ➔ **PREVIOUS:** Replacement of any other component as agreed by the Agency for a particular aircraft type.
 - ➔ **NEW:** Any other task agreed by the competent authority as a simple task for a particular aircraft type. Includes defect deferment when all the following are met:
 - ➔ No need of troubleshooting, and
 - ➔ The task is in the MEL, and
 - ➔ The maintenance action required by the MEL is agreed as simple by the competent authority.
 - ✦ CRS after rectification of deferred defects possible if the task is listed in this AMC.



Clarification of category A privileges and inclusion of new typical tasks for helicopters

- **New tasks in AMC145.A30(g) for helicopters: Removal and installation of:**
 - ✦ Helicopter Emergency Medical Service (HEMS) simple internal medical equipment.
 - ✦ External cargo provisions (external hook, mirrors...), not including the hoist.
 - ✦ Quick release external cameras and search lights.
 - ✦ Emergency float bags, not including the bottles.
 - ✦ External doors with quick release attachments.
 - ✦ Snow pads / skid wear shoes / slump protection pads.



Revision of Appendix I, II and III

- New technologies included for cat A, B1 and B2 (Modules 5, 11A, 12 and 13 of Appendix I, plus Appendix III):
 - ✧ Integrated Modular Avionics (ATA42)
 - ✧ Cabin Systems (ATA44)
 - ✧ Information Systems (ATA46)
- New subjects for cat B2 to cover the new privileges (Modules 13 and 14 of Appendix I, plus Appendix III)
- Revised Appendix II to adapt the number of questions to the new syllabus and to make them multiple of 4 (75% pass mark).
- Revised the table of "category C component ratings" in AMC 145.A.20 to include the following:
 - ✧ ATA42, 44, 50 and 92 in RATING C6 "Equipment".
 - ✧ ATA46 in RATING C3 "Communication & Navigation".
 - ✧ ATA85 and 93 in RATING C12 "Hydraulic".



Length of Basic Training for the category B2 licence

- Feedback received by EASA suggested that a comparison of the content of Part-66 Appendix I (Basic Knowledge Requirements) justified a shorter duration of the B2 training compared to the B1 training, which currently is 2400 h in both cases (Part-147 Appendix I).
- This was confirmed by an evaluation performed by EASA (in the NPA it was proposed to reduce it to 2000 h for the B2).
- However, due to the increase of privileges of the B2, the final number is maintained in 2400 hours.



Length of Basic Training for the category B2 licence

- The comparison was performed between the B1 and B2 basic syllabus, taking into account the following:
 - ✧ Number of Modules/Sub-modules/Items.
 - ✧ Level of training of each item.
 - ✧ New items introduced in this NPA for new technology for both B1 and B2 licences.
 - ✧ Increased levels of training introduced in this NPA for the increased privileges of the B2 licence.



Requirement for having B1 and B2 personnel at Part-145 organisations

- Current 145.A.30(g) states that, for line maintenance:
 - ✦ The Part-145 organisation shall “have appropriate aircraft type rated certifying staff qualified as category B1 and B2....”, and
 - ✦ “Such Part-66 category B1 and B2 staff need not always be present at the line station during minor scheduled line maintenance or simple defect rectification” (performed by category A).



Requirement for having B1 and B2 personnel at Part-145 organisations

- AMC 145.A.30(g) has been revised to include the following:
 - ✦ The competent authority may accept that in the case of aircraft line maintenance an organisation has only B1 or B2 certifying staff as applicable, provided the competent authority is satisfied that the scope of work, as defined in the Maintenance Organisation Exposition, does not need the availability of both B1 and B2 certifying staff. Special attention should be taken to clearly limit the scope of scheduled and non-scheduled line maintenance (defect rectification) to only those tasks that can be certified by the available certifying staff category.



Requirement for having B1 and B2 personnel at Part-145 organisations

- AMC 145.A.30(g) has been revised to include the following:
 - ✦ The requirement of having appropriate type rated certifying staff qualified as category B1 and B2 in the case of aircraft line maintenance does not imply that the organisation must have B1 and B2 personnel at every line station. The MOE should have a procedure on how to deal with defects requiring B1 or B2 certifying staff.



Transition provisions for entry into force and application.

- This regulation amendment shall enter into force 90 days after its publication in the *Official Journal of the European Union*.
- Amendments introduced in Appendix I and II to Part-66 shall apply 15 months after the date of entry into force (18 months after publication), except as follows:
 - ✦ Applications for Part-147 approval of basic training courses, submitted to the competent authority after the date of entry into force of this Regulation amendment, shall be subject to the new requirements of Appendix I and Appendix II of Part-66.

NOTE: Entry into force and transition provisions may change before adoption in order to be consistent with the other opinions.