

Annex VI to ED Decision 2019/008/R

'AMC/GM to Part-NCO – Issue 2, Amendment 8

The Annex to Decision 2014/016/R of 24 April 2014 is hereby amended as follows:

The text of the amendment is arranged to show deleted, new or amended text as shown below:

1. deleted text is marked with ~~strike through~~;
2. new or amended text is highlighted in **blue**; and
3. an ellipsis '(...)' indicates that the remaining text is unchanged in front of or following the reflected amendment.

1. GM1 NCO.GEN.105 is amended as follows:

GM1 NCO.GEN.105 Pilot-in-command responsibilities and authority

GENERAL

In accordance with ~~1.c. of Annex IV~~ **point 1.3 of Annex V** to Regulation ~~(EC) No 216/2008~~ **(EU) 2018/1139¹** (essential requirements for air operations), the pilot-in-command is responsible for the operation and safety of the aircraft and for the safety of all passengers and cargo on board. This includes the following:

- (a) the safety of all passengers and cargo on board, as soon as he/she arrives on board, until he/she leaves the aircraft at the end of the flight; and
- (b) the operation and safety of the aircraft:
 - (1) for aeroplanes, from the moment it is first ready to move for the purpose of flight until the moment it comes to rest at the end of the flight and the engine(s) used as primary propulsion unit(s) is/are shut down;
 - (2) for helicopters, from the moment the engine(s) are started until the helicopter comes to rest at the end of the flight with the engine(s) shut down and the rotor blades stopped; ~~or~~
 - ~~(3) for sailplanes, from the moment the launch procedure is started until the aircraft comes to rest at the end of the flight.~~

2. A new AMC1 NCO.GEN.125 is added:

AMC1 NCO.GEN.125 Portable electronic devices (PEDs)

ELECTRONIC FLIGHT BAGS (EFBS) — HARDWARE

- (a) **EFB viewable stowage**

¹ Regulation (EC) No 216/2008 of the European Parliament and of the Council of 20 February 2008 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, and repealing Council Directive 91/670/EEC, Regulation (EC) No 1592/2002 and Directive 2004/36/EC. *OJ L 79, 19.3.2008, p. 1*, as amended by Regulation (EC) No 1108/2009 of the European Parliament and of the Council of 21 October 2009, *OJ L 309, 24.11.2009, p. 51*. 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 amending Regulations (EC) No 2111/2005, (EC) No 1008/2008, (EU) No 996/2010, (EU) No 376/2014 and Directives 2014/30/EU and 2014/53/EU of the European Parliament and of the Council, and repealing Regulations (EC) No 552/2004 and (EC) No 216/2008 of the European Parliament and of the Council and Council Regulation (EEC) No 3922/91 (*OJ L 212, 22.8.2018, p. 1*).

When a viewable stowage device is used, the pilot-in-command should ensure that, if the EFB moves or is separated from its stowage, or if the viewable stowage is unsecured from the aircraft (as a result of turbulence, manoeuvring, or other action), it will not jam flight controls, damage flight deck equipment, or injure any person on board.

The viewable stowage device should not be positioned in such a way that it obstructs visual or physical access to aircraft controls and/or displays, flight crew ingress or egress, or external vision. The design of the viewable stowage device should allow the user easy access to any item of the EFB system, and notably to the EFB controls and a clear view of the EFB display while in use.

(b) Cables

If cables are used to connect an EFB to an aircraft system, power source, or any other equipment:

- (1) the cables should not hang loosely in a way that compromises task performance and safety; flight crew should be able to easily secure the cables out of the way during operations (e.g. by using cable tether straps); and
- (2) the cables should be of sufficient length so that they do not obstruct the use of any movable device on the flight deck.

3. A new AMC2 NCO.GEN.125 is added:

AMC2 NCO.GEN.125 Portable electronic devices (PEDs)

ELECTRONIC FLIGHT BAGS (EFBS) — FUNCTIONS

(a) Familiarisation

The pilot-in-command should familiarise himself or herself with the use of the EFB hardware and its applications on the ground before using them in flight for the first time.

A user guide should be available for the pilot-in-command.

(b) Check before flight

Before each flight, the pilot-in-command should perform the following checks to ensure the continued safe operation of the EFB during the flight:

- (1) general check of the EFB operation by switching it ON and checking that the applications they intend to use in flight are adequately operative;
- (2) check of the remaining available battery power, if applicable, to ensure the availability of the EFB during the planned flight;
- (3) check of the version effectivity of the EFB databases, if applicable (e.g. for charts, performance calculation and weight and balance applications); and
- (4) check that an appropriate backup is available when a chart application or an application displaying aircraft checklists is used.

(c) Chart applications

The navigation charts that are depicted should contain the necessary information in an appropriate format, to perform the operation safely. Consideration should be given to the size of the display to ensure legibility.

(d) Performance calculation and weight and balance functions or applications

Prior to the first use of a performance calculation or weight and balance function or application, and following any update of the database supporting the function or the application, a check should be performed on the ground to verify that the output of the application corresponds with the data derived from the AFM (or other appropriate sources);

(e) Airport moving map display (AMMD) application

An AMMD application should not be used as a primary means of navigation for taxiing, but as a confirmation of outside visual references.

(f) Other functions

If advanced functions on non-certified devices that display information related to the aircraft position in flight, navigation, surroundings in terms of e.g. terrain or traffic, or attitude are used, the pilot-in-command should be aware of the potential misleading or erroneous information displayed and should only use these functions as an advisory or supplementary means.

4. AMC1 NCO.OP.130 is amended as follows:**AMC1 NCO.OP.130 Passenger briefing****GENERAL**

- (a) ~~Except for sailplanes, the~~The briefing should include the locations and use of seat belts and if applicable:
- (1) emergency exits;
 - (2) passenger emergency briefing cards;
 - (3) life-jackets;
 - (4) oxygen dispensing equipment;
 - (5) life rafts; and
 - (6) other emergency equipment provided for individual passenger use.
- (b) The briefing should also include the location and general manner of use of the principal emergency equipment carried for collective use.

SAILPLANES

- ~~(c) The briefing should include the locations and use of seat belts and if applicable:~~
- ~~(1) emergency canopy opening;~~
 - ~~(2) use of the parachute;~~
 - ~~(3) oxygen dispensing equipment;~~
 - ~~(4) passenger emergency briefing cards; and~~
 - ~~(5) other emergency equipment provided for individual passenger use.~~

5. In Subpart D ('instruments, data and equipment'), Section 3 ('Sailplanes') is deleted:

SECTION 3**Sailplanes****~~GM1 NCO.IDE.S.100(a) Instruments and equipment — general~~****~~APPLICABLE AIRWORTHINESS REQUIREMENTS~~**

~~The applicable airworthiness requirements for approval of instruments and equipment required by this Part are the following:~~

- ~~(a) — Regulation (EU) No 748/2012 for sailplanes registered in the EU; and~~
- ~~(b) — Airworthiness requirements of the State of registry for sailplanes registered outside the EU.~~

~~GM1 NCO.IDE.S.100(b) Instruments and equipment — general~~**~~REQUIRED INSTRUMENTS AND EQUIPMENT THAT DO NOT NEED TO BE APPROVED IN ACCORDANCE WITH THE APPLICABLE AIRWORTHINESS REQUIREMENTS~~**

~~The functionality of non-installed instruments and equipment required by this Subpart and that do not need an equipment approval, as listed in NCO.IDE.S.100(b), should be checked against recognised industry standards appropriate to the intended purpose. The operator is responsible for ensuring the maintenance of these instruments and equipment.~~

~~GM1 NCO.IDE.S.100(c) Instruments and equipment — general~~**~~NOT REQUIRED INSTRUMENTS AND EQUIPMENT THAT DO NOT NEED TO BE APPROVED IN ACCORDANCE WITH THE APPLICABLE AIRWORTHINESS REQUIREMENTS, BUT ARE CARRIED ON A FLIGHT~~**

- ~~(a) — The provision of this paragraph does not exempt any installed instrument or item of equipment from complying with the applicable airworthiness requirements. In this case, the installation should be approved as required in the applicable airworthiness requirements and should comply with the applicable Certification Specifications.~~
- ~~(b) — The failure of additional non-installed instruments or equipment not required by this Part or by the applicable airworthiness requirements or any applicable airspace requirements should not adversely affect the airworthiness and/or the safe operation of the sailplane. Examples may be portable electronic devices carried by crew members or passengers.~~

~~AMC1 NCO.IDE.S.115&NCO.IDE.S.120 Operations under VFR & cloud flying — flight and navigational instruments~~**~~INTEGRATED INSTRUMENTS~~**

- ~~(a) — Individual equipment requirements may be met by combinations of instruments or by integrated flight systems or by a combination of parameters on electronic displays. The information so available to each required pilot should not be less than that required in the applicable operational requirements, and the equivalent safety of the installation should be approved during type certification of the sailplane for the intended type of operation.~~
- ~~(b) — The means of measuring and indicating turn and slip and sailplane attitude may be met by combinations of instruments, provided that the safeguards against total failure, inherent in the three separate instruments, are retained.~~

~~AMC1 NCO.IDE.S.115(a)(1)&NCO.IDE.S.120(a) Operations under VFR & cloud flying — flight and navigational instruments~~

~~MEANS OF MEASURING AND DISPLAYING MAGNETIC heading~~

~~The means of measuring and displaying magnetic direction should be a magnetic compass or equivalent.~~

~~AMC1 NCO.IDE.S.115(a)(2)&NCO.IDE.S.120(b) Operations under VFR & cloud flying — flight and navigational instruments~~

~~MEANS OF MEASURING AND DISPLAYING THE TIME~~

~~A means of measuring and displaying the time in hours, minutes and seconds may be a wrist watch capable of the same functions.~~

~~AMC1 NCO.IDE.S.115(a)(3)&NCO.IDE.S.120(c) Operations under VFR & cloud flying — flight and navigational instruments~~

~~CALIBRATION OF THE MEANS FOR MEASURING AND DISPLAYING PRESSURE ALTITUDE~~

~~(a) — The instrument measuring and displaying pressure altitude should be of a sensitive type calibrated in feet (ft), with a sub-scale setting, calibrated in hectopascals/millibars, adjustable for any barometric pressure likely to be set during flight.~~

~~(b) — Calibration in metres (m) is also acceptable.~~

~~AMC1 NCO.IDE.S.115(a)(4)&NCO.IDE.S.120(d) Operations under VFR & cloud flying — flight and navigational instruments~~

~~CALIBRATION OF THE INSTRUMENT INDICATING AIRSPEED~~

~~(a) — The instrument indicating airspeed should be calibrated in knots (kt).~~

~~(b) — Calibration in kilometres per hour (kph) or in miles per hour (mph) is also acceptable.~~

~~AMC1 NCO.IDE.S.115(b)(2) Operations under VFR — flight and navigational instruments~~

~~SLIP INDICATION~~

~~The means of measuring and displaying slip may be a yaw string for operations under VFR.~~

~~GM1 NCO.IDE.S.115(b) Operations under VFR — flight and navigational instruments~~

~~CONDITIONS WHERE THE SAILPLANE CANNOT BE MAINTAINED IN A DESIRED ATTITUDE WITHOUT REFERENCE TO ONE OR MORE ADDITIONAL INSTRUMENTS~~

~~Sailplanes operating in conditions where the sailplane cannot be maintained in a desired attitude without reference to one or more additional instruments means a condition that is still under VFR (under VMC) though where there is no external reference such as the natural horizon or a coastline, that would allow the attitude to be maintained. Such conditions may occur over water, a desert or snow covered areas where the colour of the surface cannot be distinguished from the colour of the sky and therefore no external reference is available. Cloud flying is not considered to be one of these conditions.~~

~~AMC1 NCO.IDE.S.125 Seats and restraint systems~~

~~UPPER TORSO RESTRAINT SYSTEM~~

- (a) ~~A seat belt with upper torso restraint system should have four anchorage points and should include shoulder straps (two anchorage points) and a seat belt (two anchorage points), which may be used independently.~~
- (b) ~~A restraint system having five anchorage points is deemed to be compliant to the requirement for seat belt with upper torso restraint system with four anchorage points.~~

~~AMC 1 NCO.IDE.S.130 Supplemental oxygen supply~~

~~OXYGEN SUPPLY~~

~~The need for oxygen supply, when required by NCO.OP.190, may be met either by means of installed equipment or portable equipment.~~

~~AMC1 NCO.IDE.S.135 Flight over water~~

~~MEANS OF ILLUMINATION FOR LIFE-JACKETS~~

~~Each life jacket or equivalent individual flotation device should be equipped with a means of electric illumination for the purpose of facilitating the location of persons.~~

~~RISK ASSESSMENT~~

- (a) ~~When conducting the risk assessment, the pilot-in-command should base his/her decision, as far as is practicable, on the Implementing Rules and AMCs applicable to the operation of the sailplane.~~
- (b) ~~The pilot in command should, for determining the risk, take the following operating environment and conditions into account:~~
 - (1) ~~sea state;~~
 - (2) ~~sea and air temperatures;~~
 - (3) ~~the distance from land suitable for making an emergency landing; and~~
 - (4) ~~the availability of search and rescue facilities.~~

~~GM1 NCO.IDE.S.135(a) Flight over water~~

~~SEAT CUSHIONS~~

~~Seat cushions are not considered to be flotation devices.~~

~~AMC1 NCO.IDE.S.135(b) Flight over water~~

~~BATTERIES~~

- (a) ~~All batteries used in ELTs or PLBs should be replaced (or recharged, if the battery is rechargeable) when the equipment has been in use for more than 1 cumulative hour or in the following cases:~~
 - (1) ~~Batteries specifically designed for use in ELTs and having an airworthiness release certificate (EASA Form 1 or equivalent) should be replaced (or recharged, if the battery is rechargeable) before the end of their useful life in accordance with the maintenance instructions applicable to the ELT.~~
 - (2) ~~Standard batteries manufactured in accordance with an industry standard and not having an airworthiness release certificate (EASA Form 1 or equivalent), when used in ELTs should be replaced (or recharged, if the battery is rechargeable) when 50 % of their useful life (or for rechargeable, 50 % of their useful life of charge), as established by the battery manufacturer, has expired.~~

- (3) — All batteries used in PLBs should be replaced (or recharged, if the battery is rechargeable) when 50 % of their useful life (or for rechargeable, 50 % of their useful life of charge), as established by the battery manufacturer, has expired.
 - (4) — The battery useful life (or useful life of charge) criteria in (1),(2) and (3) do not apply to batteries (such as water activated batteries) that are essentially unaffected during probable storage intervals.
- (b) — The new expiry date for a replaced (or recharged) battery should be legibly marked on the outside of the equipment.

~~AMC2 NCO.IDE.S.135(b) Flight over water~~

~~TYPES OF ELT AND GENERAL TECHNICAL SPECIFICATIONS~~

- (a) — The ELT required by this provision should be one of the following:
- (1) — Automatic fixed (ELT(AF)). An automatically activated ELT that is permanently attached to an aircraft and is designed to aid SAR teams in locating the crash site.
 - (2) — Automatic portable (ELT(AP)). An automatically activated ELT that is rigidly attached to an aircraft before a crash, but is readily removable from the aircraft after a crash. It functions as an ELT during the crash sequence. If the ELT does not employ an integral antenna, the aircraft-mounted antenna may be disconnected and an auxiliary antenna (stored on the ELT case) attached to the ELT. The ELT can be tethered to a survivor or a life-raft. This type of ELT is intended to aid SAR teams in locating the crash site or survivor(s).
 - (3) — Automatic Deployable (ELT(AD)). An ELT that is rigidly attached to the aircraft before the crash and that is automatically ejected, deployed and activated by an impact, and, in some cases, also by hydrostatic sensors. Manual deployment is also provided. This type of ELT should float in water and is intended to aid SAR teams in locating the crash site.
 - (4) — Survival ELT (ELT(S)). An ELT that is removable from an aircraft, stowed so as to facilitate its ready use in an emergency and manually activated by a survivor. An ELT(S) may be activated manually or automatically (e.g. by water activation). It should be designed either to be tethered to a life-raft or a survivor.
- (b) — To minimise the possibility of damage in the event of crash impact, the automatic ELT should be rigidly fixed to the aircraft structure, as far aft as is practicable, with its antenna and connections arranged so as to maximise the probability of the signal being transmitted after a crash.
- (c) — Any ELT carried should operate in accordance with the relevant provisions of ICAO Annex 10, Volume III, and should be registered with the national agency responsible for initiating search and rescue or other nominated agency.

~~AMC3 NCO.IDE.S.135(b) Flight over water~~

~~PLB TECHNICAL SPECIFICATIONS~~

- (a) — A personal locator beacon (PLB) should have a built-in GNSS receiver with a *cosmicheskaya sistyema poiska avariynich sudov* — search and rescue satellite-aided tracking (COSPAS-SARSAT) type approval number. However, devices with a COSPAS-SARSAT number belonging to series 700 are excluded as this series of numbers identifies the special-use beacons not meeting all the technical requirements and all the tests specified by COSPAS-SARSAT.

- (b) — Any PLB carried should be registered with the national agency responsible for initiating search and rescue or other nominated agency.

~~AMC4 NCO.IDE.S.135(b) — Flight over water~~

~~BRIEFING ON PLB USE~~

~~When a PLB is carried by a passenger, he/she should be briefed on its characteristics and use by the pilot-in-command before the flight.~~

~~GM1 NCO.IDE.S.135(b) — Flight over water~~

~~TERMINOLOGY~~

- (a) — ~~An ELT is a generic term describing equipment that broadcasts distinctive signals on designated frequencies and, depending on application, may be activated by impact or may be manually activated.~~
- (b) — ~~A PLB is an emergency beacon other than an ELT that broadcasts distinctive signals on designated frequencies, is standalone, portable and is manually activated by the survivors.~~

~~AMC1 NCO.IDE.S.140 — Survival equipment~~

~~GENERAL~~

~~Sailplanes operated across land areas in which search and rescue would be especially difficult should be equipped with the following:~~

- (a) — ~~signalling equipment to make the distress signals;~~
- (b) — ~~at least one ELT(S) or a PLB; and~~
- (c) — ~~additional survival equipment for the route to be flown taking account of the number of persons on board.~~

~~AMC2 NCO.IDE.S.140 — Survival equipment~~

~~ADDITIONAL SURVIVAL EQUIPMENT~~

- (a) — ~~The following additional survival equipment should be carried when required:~~
- ~~(1) — 500 ml of water;~~
 - ~~(2) — one knife;~~
 - ~~(3) — first-aid equipment; and~~
 - ~~(4) — one set of air/ground codes.~~
- (b) — ~~If any item of equipment contained in the above list is already carried on board the sailplane in accordance with another requirement, there is no need for this to be duplicated.~~

~~GM1 NCO.IDE.S.140 — Survival equipment~~

~~SIGNALLING EQUIPMENT~~

~~The signalling equipment for making distress signals is described in ICAO Annex 2, Rules of the Air.~~

~~GM2 NCO.IDE.S.140 – Survival equipment~~

~~AREAS IN WHICH SEARCH AND RESCUE WOULD BE ESPECIALLY DIFFICULT~~

~~The expression ‘areas in which search and rescue would be especially difficult’ should be interpreted, in this context, as meaning:~~

- ~~(a) — areas so designated by the authority responsible for managing search and rescue; or~~
- ~~(b) — areas that are largely uninhabited and where:
 - ~~(1) — the authority referred to in (a) has not published any information to confirm whether search and rescue would be or would not be especially difficult; and~~
 - ~~(2) — the authority referred to in (a) does not, as a matter of policy, designate areas as being especially difficult for search and rescue.~~~~

~~GM1 NCO.IDE.S.150 – Navigation equipment~~

~~APPLICABLE AIRSPACE REQUIREMENTS~~

~~For sailplanes being operated under European air traffic control, the applicable airspace requirements include the Single European Sky legislation.~~

~~AMC1 NCO.IDE.S.155 – Transponder~~

~~GENERAL~~

- ~~(a) — The secondary surveillance radar (SSR) transponders of sailplanes being operated under European air traffic control should comply with any applicable Single European Sky legislation.~~
- ~~(b) — If the Single European Sky legislation is not applicable, the SSR transponders should operate in accordance with the relevant provisions of Volume IV of ICAO Annex 10.~~