

Annex V to Decision 2018/003/R
'AMC/GM to Part-SPO – Amendment 10'

The Annex to Decision 2014/018/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 grey; and
3. an ellipsis (...) indicates that the remaining text is unchanged in front of or following the reflected amendment.

GM1 SPO.GEN.107 is amended as follows:

GM1 SPO.GEN.107 Pilot-in-command responsibilities and authority

GENERAL

In accordance with 1.c. of Annex IV to Regulation (EC) No 216/2008 (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 crew members, task specialists and cargo on board. This includes the following:

- (a) the safety of all persons 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. ~~;~~ ~~or~~
 - (4) ~~for balloons, from the moment the inflating of the envelope is started until the envelope is deflated.~~

GM1 SPO.GEN.108(c) is deleted:

~~**GM1 SPO.GEN.108(c) Pilot in command responsibilities and authority — balloons**~~

~~PROTECTIVE CLOTHING~~

~~Protective clothing includes:~~

- ~~(a) long sleeves and trousers preferably made out of natural fibres;~~
- ~~(b) stout footwear; and~~

~~(c) — gloves.~~

GM1 SPO.OP.100 is deleted:

~~GM1 SPO.OP.100 — Use of aerodromes and operating sites~~

~~ADEQUATE SITES — BALLOONS~~

~~An adequate site is a site that the pilot-in-command considers to be satisfactory, taking account of the applicable performance requirements and site characteristics.~~

GM1 SPO.OP.225 is deleted:

~~GM1 SPO.OP.225 — Operational limitations — hot air balloons~~

~~AVOIDANCE OF NIGHT LANDING~~

~~The intent of rule is to ensure that when the balloon takes off during night, sufficient fuel is on board for landing under VFR by day.~~

~~The risk of collision with overhead lines is considerable and cannot be overstated. The risk is considerably increased during night flights in conditions of failing light and visibility when there is increasing pressure to land. A number of incidents have occurred in the late evening in just such conditions, and may have been avoided had an earlier landing been planned. Night landings should therefore be avoided by taking appropriate measures, including a larger quantity of fuel and/or additional safety equipment.~~

GM1 SPO.POL.105 is amended as follows:

GM1 SPO.POL.105 Mass and balance

GENERAL — OPERATIONS WITH OTHER-THAN-COMPLEX MOTOR-POWERED AIRCRAFT

- (a) New aircraft that have been weighed at the factory may be placed into operation without reweighing if the mass records and, ~~except for balloons,~~ balance records have been adjusted for alterations or modifications to the aircraft. Aircraft transferred from one EU operator to another EU operator do not have to be weighed prior to use by the receiving operator unless the mass and balance cannot be accurately established by calculation.
- (b) ~~For aircraft other than balloons, the~~**The** mass and the centre of gravity (CG) position of an aircraft should be revised whenever the cumulative changes to the dry operating mass exceed ± 0.5 % of the maximum landing mass or for aeroplanes the cumulative change in CG position exceeds 0.5 % of the mean aerodynamic chord. This may be done by weighing the aircraft or by calculation. If the AFM requires to record changes to mass and CG position below these thresholds, or to record changes in any case, and make them known to the pilot-in-command, mass and CG position should be revised accordingly and made known to the pilot-in-command.
- ~~(c) — The initial empty mass for a balloon is the balloon empty mass determined by a weighing performed by the manufacturer of the balloon before the initial entry into service~~
- ~~(d) — The mass of a balloon should be revised whenever the cumulative changes to the balloon empty mass due to modifications or repairs exceed ± 10 % of the initial empty mass. This may be done by weighing the balloon or by calculation.~~

In Subpart D ('Instruments, data and equipment'), Section 4 ('Balloons') is deleted:

~~Section 4 – Balloons~~

~~GM1 SPO.IDE.B.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) — Commission Regulation (EU) No 748/2012 for balloons registered in the EU; and~~
- ~~(b) — Airworthiness requirements of the state of registry for balloons registered outside the EU.~~

~~GM1 SPO.IDE.B.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 SPO.IDE.B.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 SPO.IDE.B.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 balloon. Examples may be portable electronic devices carried by crew members or task specialists.~~

~~AMC1 SPO.IDE.B.110 Operating lights~~

~~ANTI-COLLISION LIGHTS~~

~~An acceptable means of compliance is the anti collision light required for free manned balloons certified for VFR at night in accordance with CS-31HB/GB.~~

~~ILLUMINATION FOR INSTRUMENTS AND EQUIPMENT~~

~~A means to provide adequate illumination to instruments and equipment essential to the safe operation of the balloon may be an independent portable light.~~

~~AMC1 SPO.IDE.B.115(a) Operations under VFR — flight and navigational instruments and associated equipment~~

~~MEANS OF DISPLAYING DRIFT DIRECTION~~

~~The drift direction may be determined by using a map and reference to visual landmarks.~~

~~**AMC1 SPO.IDE.B.115(b)(1) Operations under VFR — flight and navigational instruments and associated equipment**~~

~~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.~~

~~**GM1 SPO.IDE.B.115(b)(2) Operations under VFR — flight and navigational instruments**~~

~~MEANS OF MEASURING AND DISPLAYING VERTICAL SPEED~~

~~The necessity of a vertical speed indicator depends on the balloon design. Some envelope shapes have a high drag and will therefore not develop a high ascent/descent speed. Such balloons usually do not require a vertical speed indicator. More slender envelope shapes such as special shape balloons may have a significantly lower drag. Their ascent/descent speed is usually limited to a certain value so that controllability of the balloon is maintained. To be able to stay within this limitation of the AFM, a vertical speed indicator is required for such balloons.~~

~~**GM1 SPO.IDE.B.115(b)(3) Operations under VFR — flight and navigational instruments and associated equipment**~~

~~MEANS OF MEASURING AND DISPLAYING PRESSURE ALTITUDE~~

~~A means of measuring and displaying pressure altitude is needed when required by ATC, or by Commission Implementing Regulation (EU) No 923/2012, or when altitude needs to be checked for flights where oxygen is used, or the limitations in the AFM require to limit altitude and/or rate of climb/descent.~~

~~**AMC1 SPO.IDE.B.120 First aid kit**~~

~~CONTENT OF FIRST-AID KITS~~

- ~~(a) — First aid kits should be equipped with appropriate and sufficient medications and instrumentation. However, these kits should be amended by the operator according to the characteristics of the operation (scope of operation, flight duration, number and demographics of passengers, etc.).~~
- ~~(b) — The following should be included in the FAKs:~~
- ~~(1) — bandages (assorted sizes),~~
 - ~~(2) — burns dressings (large and small),~~
 - ~~(3) — wound dressings (large and small),~~
 - ~~(4) — adhesive dressings (assorted sizes),~~
 - ~~(5) — antiseptic wound cleaner,~~
 - ~~(6) — safety scissors, and~~
 - ~~(7) — disposable gloves.~~

~~**AMC2 SPO.IDE.B.120 First aid kit**~~

~~MAINTENANCE OF FIRST-AID KIT~~

~~To be kept up to date, first aid kits should be:~~

- ~~(a) — inspected periodically to confirm, to the extent possible, that contents are maintained in the condition necessary for their intended use;~~
- ~~(b) — replenished at regular intervals, in accordance with instructions contained on their labels, or as circumstances warrant; and~~

~~(c) — replenished after use in flight at the first opportunity where replacement items are available.~~

~~**AMC1 SPO.IDE.B.125 — Hand fire extinguishers**~~

~~CERTIFICATION SPECIFICATIONS~~

~~The applicable Certification Specification for hot-air balloons should be CS-31HB or equivalent.~~

~~**AMC1 SPO.IDE.B.130 — Flight over water**~~

~~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 balloon.~~
- ~~(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.~~

~~**AMC1 SPO.IDE.B.130(a) — 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.~~

~~**AMC1 SPO.IDE.B.130(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 SPO.IDE.B.130(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 which 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 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 SPO.IDE.B.130(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 with a 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 SPO.IDE.B.130(b) Flight over water**BRIEFING ON PLB use**

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

GM1 SPO.IDE.B.130(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.~~

GM1 SPO.IDE.B.130(c) Flight over water

SIGNALLING EQUIPMENT

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

AMC1 SPO.IDE.B.135 Survival equipment

GENERAL

~~Balloons 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 SPO.IDE.B.135 Survival equipment

ADDITIONAL SURVIVAL EQUIPMENT

- (a) ~~The following additional survival equipment should be carried when required:~~
 - (1) ~~500 ml of water for each four, or fraction of four, persons on board;~~
 - (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 balloon in accordance with another requirement, there is no need for this to be duplicated.~~

GM2 SPO.IDE.B.135 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) cue 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.~~

~~AMC1 SPO.IDE.B.140(a)(3) – Miscellaneous equipment~~

~~FIRE BLANKET~~

~~A fire blanket should comply with EN 1869 or equivalent. The size should be at least 1.5 m x 2 m. Smaller sizes are not recommended as they cannot sufficiently cover the source of developing propane fire.~~

~~AMC1 SPO.IDE.B.140 (b)(1) – Miscellaneous equipment~~

~~KNIFE~~

~~The knife, hook knife or equivalent, should be capable of cutting any control line or handling rope that is accessible to the pilot in command or a crew member from the basket.~~

~~GM1 SPO.IDE.B.145 – Radio communication equipment~~

~~APPLICABLE AIRSPACE REQUIREMENTS~~

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

~~AMC1 SPO.IDE.B.150 – Transponder~~

~~GENERAL~~

- ~~(a) – The SSR transponders of balloons 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.~~