

***European Union Aviation Safety Agency***

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**Acceptable Means of Compliance and  
Guidance Material to  
Annex II Sailplane Air Operations  
(Part-SAO)  
to Commission Implementing Regulation  
(EU) 2018/1976**

Issue 1<sup>1</sup>

28 January 2019

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<sup>1</sup> For the date of entry into force of this issue, refer to Article 3 of this Decision.

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**ACCEPTABLE MEANS OF COMPLIANCE (AMC) AND GUIDANCE MATERIAL (GM)  
TO ANNEX II (PART-SAO) TO COMMISSION IMPLEMENTING REGULATION (EU) 2018/1976<sup>2</sup>**

**SAILPLANE AIR OPERATIONS**

**[PART-SAO]**

SUBPART GEN

**GENERAL REQUIREMENTS**

**AMC1 SAO.GEN.110(a) Demonstration of compliance**

SAILPLANES REGISTERED IN ANOTHER MEMBER STATE

- (a) The operator of a sailplane which is not registered in the Member State, where the sailplane is predominantly based, should notify the competent authority of that Member State prior to the start of operation.
- (b) The notification should include:
  - (1) sailplane type;
  - (2) sailplane registration;
  - (3) main base;
  - (4) expected duration of the operation; and
  - (5) contact details of the operator.

**GM1 SAO.GEN.110(b)(2) Demonstration of compliance**

ALTERNATIVE MEANS OF COMPLIANCE

An alternative means of compliance (AltMoC):

- (a) ensures full compliance with the implementing rule;
- (b) does not need to be approved by the competent authority; and
- (c) needs, in accordance with point (c) of point SAO.DEC.100, to be notified to the competent authority, when commercial operations requiring a declaration are conducted.

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<sup>2</sup> Commission Implementing Regulation (EU) 2018/1976 of 14 December 2018 laying down detailed rules for the operation of sailplanes pursuant to Regulation (EU) 2018/1139 of the European Parliament and of the Council (OJ L 326, 20.12.2018, p. 64).

**GM1 SAO.GEN.130(a);(b) Responsibilities of the pilot-in-command**

GENERAL

In accordance with the essential requirements for air operations, which are laid down in Annex V to Regulation (EU) 2018/1139<sup>3</sup>, the pilot-in-command is responsible for the operation and safety of the sailplane and for the safety of the passenger on board. This includes the following:

- (a) the safety of the passenger on board, as soon as he or she arrives on board until he or she leaves the sailplane; and
- (b) the operation and safety of the sailplane from the moment the launch procedure is started until the sailplane comes to rest at the end of the flight.

**AMC1 SAO.GEN.130(c) Responsibilities of the pilot-in-command**

CHECKLISTS

- (a) The pilot-in-command should use the latest checklists provided by the type certificate holder or the operator.
- (b) If checks conducted before take-off are suspended at any point, the pilot-in-command should restart them from a safe point prior to the interruption.

**AMC1 SAO.GEN.130(d)(4) Responsibilities of the pilot-in-command**

USE OF OTHER DOCUMENTS

For those sailplanes, where the current mass and the centre of gravity location are not available in the aircraft flight manual (AFM), other documents, such as the mass and balance report, should be used.

**AMC1 SAO.GEN.130(f) Responsibilities of the pilot-in-command**

DIVING AND BLOOD DONATION

Diving and blood donation may be a cause of incapacitation. The pilot-in-command should not perform duties on a sailplane until a reasonable time period has elapsed after deep water diving or following blood donation.

**GM1 SAO.GEN.130(f) Responsibilities of the pilot-in-command**

DIVING AND BLOOD DONATION — ELAPSED TIME BEFORE RETURNING TO FLYING DUTY

24 hours is a suitable minimum length of time to allow after normal recreational (sport) diving or normal blood donation before a flight. This is considered when determining a reasonable time period.

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<sup>3</sup> 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).

**AMC1 SAO.GEN.130(f) & SAO.GEN.135(b) Responsibilities of the pilot-in-command & responsibilities of crew members**  
ALCOHOL CONSUMPTION

The pilot-in-command and any other crew member should observe the following restrictions:

- (a) no alcohol should be consumed less than 8 hours prior to a flight;
- (b) the blood alcohol level should not exceed the lower of the national requirements or 0.2 grams of alcohol in 1 litre of blood at the start of a flight; and
- (c) no alcohol should be consumed during the flight.

**GM1 SAO.GEN.130(f) & SAO.GEN.135(b) Responsibilities of the pilot-in-command & responsibilities of crew members**  
PART-MED

Requirements and information on the effects of medication, psychoactive substances and other treatments can be found in Annex IV (Part-MED) to Regulation (EU) No 1178/2011<sup>4</sup>, and its associated acceptable means of compliance and guidance material.

**GM1 SAO.GEN.130(m) Responsibilities of the pilot-in-command**  
RECORDING UTILISATION DATA

Where a sailplane conducts a series of flights of short duration, the utilisation data for the series of flights may be recorded in the aircraft technical log or journey log as a single entry.

**GM2 SAO.GEN.130(m) Responsibilities of the pilot-in-command**  
SERIES OF FLIGHTS

- (a) 'Series of flights' refers to consecutive flights, which begin and end:
  - (1) within a 24-hour period; and
  - (2) at the same operating site or remain within a local area.
- (b) The term 'series of flights' is used to facilitate a single set of documentation.

**AMC1 SAO.GEN.130(p) Responsibilities of the pilot-in-command**  
REPORTING OF HAZARDOUS FLIGHT CONDITIONS

- (a) These reports should include any detail which may be pertinent to the safety of other aircraft.
- (b) When unexpected meteorological conditions affecting other aircraft are encountered that, in the opinion of the pilot-in-command, may affect the safety or the efficiency of other aircraft operations, he or she should advise the appropriate air traffic services (ATS) unit as soon as practicable.

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<sup>4</sup> Commission Regulation (EU) No 1178/2011 of 3 November 2011 laying down technical requirements and administrative procedures related to civil aviation aircrew pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (OJ L 311, 25.11.2011, p. 1).

### **GM1 SAO.GEN.135 Responsibilities of crew members**

#### DESIGNATION OF A PERSON AS A CREW MEMBER

- (a) A crew member may be any person designated by the pilot-in-command or the operator, provided that:
  - (1) the role, according to the reasonable expectation of the pilot-in-command or the operator, will enhance the safety of the flight or achieve an operational objective of the flight;
  - (2) the person, according to the reasonable expectation of the pilot-in-command or of the operator, is capable of fulfilling the role;
  - (3) the person has been briefed on the role as a crew member and informed that he or she is crew, not a passenger; and
  - (4) the person agrees to the role as a crew member.
- (b) A crew member may be required, by specific provisions of this Regulation and other implementing rules, to hold licences, ratings or other personnel certificates to fulfil certain roles such as instructor or examiner in certain circumstances.

### **GM1 SAO.GEN.145 Portable electronic devices**

#### CATEGORIES OF PORTABLE ELECTRONIC DEVICES

Portable electronic devices (PEDs) are any kind of electronic device, typically but not limited to consumer electronics, brought on board the sailplane by any person and that are not included in the approved sailplane configuration. All equipment that is able to consume electrical energy falls under this definition. The electrical energy can be provided from internal sources such as batteries (rechargeable or non-rechargeable) or the devices may also be connected to specific sailplane power sources.

PEDs include the following two categories:

- (a) Non-intentional transmitters can non-intentionally radiate radio frequency (RF) transmissions, sometimes referred to as spurious emissions. This category includes but is not limited to calculators, cameras, radio receivers, audio and video players, electronic games and toys, when these devices are not equipped with a transmitting function.
- (b) Intentional transmitters (T-PEDs) radiate RF transmissions on specific frequencies as part of their intended function. In addition, they may radiate non-intentional transmissions like any PED. T-PEDs are transmitting devices such as RF-based remote control equipment, which may include some toys, two-way radios (sometimes referred to as 'private mobile radios'), mobile phones of any type, satellite phones, computers with mobile phone data connection, wireless local area network (WLAN) or Bluetooth capability. After deactivation of the transmitting capability, e.g. by activating the so-called 'flight mode' or 'flight safety mode', the T-PED remains a PED having non-intentional emissions.



## **GM2 SAO.GEN.145 Portable electronic devices**

### GENERAL

- (a) PEDs can pose a risk of interference with electronically operated sailplane systems. Those systems could range from the electronic engine control, instruments, navigation or communication equipment to any other type of avionic equipment on the sailplane. The interference can result in on-board systems malfunctioning or providing misleading information and communication disturbance. These can also lead to an increased workload for the flight crew.
- (b) Interference may be caused by transmitters being part of the PED's functionality or by unintentional transmissions from the PED. Due to the likely proximity of the PED to any electronically operated sailplane system and the generally limited shielding found in sailplanes, the risk of interference is to be considered higher than that for larger aircraft with metal airframes.
- (c) During certification of the sailplane, when qualifying the sailplane functions, consideration may only have been made of short-term exposure to a high-radiating field, with an acceptable mitigating measure being a return to normal function after removal of the threat. This certification assumption may not be true when operating the transmitting PED on board the sailplane.
- (d) It has been found that compliance with electromagnetic compatibility provisions and related European standards, as indicated by the CE marking, is not sufficient to exclude the existence of interference. A well-known interference is the demodulation of the transmitted signal from GSM (global system for mobile communications) mobile phones leading to audio disturbances in other systems. Similar interferences are difficult to predict during the PED design, and protecting the sailplane's electronic systems against the full range of potential interferences is practically impossible. Therefore, not operating PEDs on board the sailplane is the safest option, especially as effects may not be identified immediately but under the most inconvenient circumstances.
- (e) Guidance to follow in case of fire caused by PEDs is provided by the latest effective edition of the International Civil Aviation Organization, 'Emergency response guidance for aircraft incidents involving dangerous goods', ICAO Doc 9481-AN/928.

## **GM1 SAO.GEN.150 Dangerous goods**

### EXAMPLES

Dangerous goods include the following:

- (a) explosives (fireworks, flares, detonators, fuses, dynamite, ammunition and materials for fireworks in general);
- (b) compressed, liquefied or dissolved gases (aerosols, self-defence sprays, camping gas, extinguishers, cryogenic liquids, bottles with cooling gases and compressed gas cylinders in general);
- (c) flammable liquids and solids (fuel, equipment containing fuel, oil, adhesives, solvents, paint, petrol, varnish, torches, cigarette lighters and lighter refills);

- (d) substances that emit flammable gases in contact with water;
- (e) oxidisers and organic peroxides (oxygen generators and bleaching powder); and
- (f) substances liable to spontaneous combustion (strike-anywhere matches and phosphorous).

**AMC1 SAO.GEN.150(b) Dangerous goods**

**REASONABLE QUANTITIES**

The carriage of reasonable quantities of articles and substances should be permitted regardless of whether or not such articles and substances are required to be carried or intended to be used in connection with a particular flight. The packing and loading on board should be performed, under the responsibility of the pilot-in-command, in such a way as to minimise the risks posed to crew members, passengers or the sailplane during operation.

**AMC1 SAO.GEN.155 Documents, manuals and information to be carried**

**GENERAL**

- (a) In case of loss or theft of documents, manuals and information to be carried, the operation may continue until the flight reaches the base or a place where a replacement document can be provided.
- (b) The documents, manuals and information may be available in a form other than on printed paper. An electronic storage medium should be acceptable if accessibility, usability and reliability can be assured.

**GM1 SAO.GEN.155(a)(1) Documents, manuals and information to be carried**

**AFM OR EQUIVALENT DOCUMENT(S)**

- (a) 'AFM or equivalent document(s)' refers to the flight manual for the sailplane or other documents containing information required for the operation of the sailplane within the terms of its certificate of airworthiness.
- (b) At least the operating limitations, normal and emergency procedures are available to the pilot during operation by providing the specific sections of the AFM or by other means (e.g. placards, quick reference cards) that effectively accomplish the purpose.

**AMC1 SAO.GEN.155(a)(3) Documents, manuals and information to be carried**

**CURRENT AND SUITABLE AERONAUTICAL CHARTS**

- (a) The aeronautical charts carried should contain data appropriate to the applicable air traffic regulations, rules of the air, flight altitudes, area, route, and nature of the operation. Due consideration should be given to the carriage of textual and graphic representations of:
  - (1) aeronautical data, including, as appropriate for the nature of the operation:
    - (i) airspace structure;
    - (ii) communication frequencies;
    - (iii) prohibited, restricted and danger areas; and
    - (iv) sites of other relevant activities that may hazard the flight; and

- (2) topographical data, including terrain and obstacle data.
- (b) A combination of different charts and textual data may be used to provide adequate and current data.
- (c) The aeronautical data should be appropriate for the current aeronautical information regulation and control (AIRAC) cycle.
- (d) The topographical data should be reasonably recent, having regard to the nature of the planned operation.

**GM1 SAO.GEN.155(a)(4) Documents, manuals and information to be carried**

DOCUMENTS THAT MAY BE PERTINENT TO THE FLIGHT OR REQUIRED BY THE STATES CONCERNED WITH THE FLIGHT

- (a) Any other documents that may be pertinent to the flight or are required by the States concerned with the flight may include, for example, forms to comply with reporting requirements.
- (b) The States concerned are those of origin, overflight and destination of the flight.

**GM1 SAO.GEN.155(a)(5) Documents, manuals and information to be carried**

PROCEDURES AND VISUAL SIGNALS FOR USE BY INTERCEPTING AND INTERCEPTED AIRCRAFT

The procedures and the visual signals information used in the airspace of EU Member States by intercepting and intercepted aircraft are those contained in Regulation (EU) No 923/2012<sup>5</sup> (the standardised European rules of the air (SERA)).

**AMC1 SAO.GEN.155(c)(2) Documents, manuals and information to be carried**

CERTIFICATE OF AIRWORTHINESS

The certificate of airworthiness should be a standard certificate of airworthiness, a restricted certificate of airworthiness or a permit to fly issued in accordance with Regulation (EU) No 748/2012<sup>6</sup>.

**GM1 SAO.GEN.155(c)(7) Documents, manuals and information to be carried**

JOURNEY LOG OR EQUIVALENT

'Journey log or equivalent' refers to the possibility of having the required information recorded in documentation other than a logbook, such as the operational flight plan or the sailplane technical log.

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<sup>5</sup> Commission Implementing Regulation (EU) No 923/2012 of 26 September 2012 laying down the common rules of the air and operational provisions regarding services and procedures in air navigation and amending Implementing Regulation (EU) No 1035/2011 and Regulations (EC) No 1265/2007, (EC) No 1794/2006, (EC) No 730/2006, (EC) No 1033/2006 and (EU) No 255/2010 (OJ L 281, 13.12.2012, p. 1).

<sup>6</sup> Commission Regulation (EU) No 748/2012 of 3 August 2012 laying down implementing rules for the airworthiness and environmental certification of aircraft and related products, parts and appliances, as well as for the certification of design and production organisations (OJ L 224, 21.8.2012, p.1).

**AMC1 SAO.GEN.160 Journey log**

GENERAL

- (a) The journey log, or equivalent, should include the following items, where applicable:
- (1) sailplane nationality and registration;
  - (2) date;
  - (3) name of flight crew member(s);
  - (4) duty assignments of crew member(s), if applicable;
  - (5) place of departure;
  - (6) place of arrival;
  - (7) time of departure;
  - (8) time of arrival;
  - (9) hours of flight;
  - (10) nature of flight;
  - (11) incidents and observations, if any; and
  - (12) signature of the pilot-in-command.
- (b) The information or parts thereof may be recorded in a form other than on printed paper. Accessibility, usability and reliability should be assured.

SUBPART OP

***OPERATING PROCEDURES***

**GM1 SAO.OP.100 Use of aerodromes and operating sites**

GENERAL

If the pilot-in-command cannot fly safely to an aerodrome or operating site, he or she may decide to conduct an outlanding, i.e. a landing at an unprepared site.

**AMC1 SAO.OP.110 Passenger briefing**

GENERAL

The passenger briefing should include the locations and use of safety belts and, if applicable:

- (a) emergency canopy opening;
- (b) parachute;
- (c) oxygen dispensing equipment; and
- (d) other emergency equipment provided for individual passenger use.

**GM1 SAO.OP.110 Passenger briefing**

GENERAL

Either the pilot-in-command or a person designated by the operator is carrying out the passenger briefing.

**GM1 SAO.OP.120(a) Flight preparation**

FACILITIES REQUIRED

Facilities include:

- (a) required communication facilities and navigation aids;
- (b) global navigation satellite system (GNSS), if applicable; and
- (c) access to airspace required for the flight.

**GM1 SAO.OP.135 Meteorological conditions**

SAFE LANDING OPTION

- (a) 'Safe landing option' refers to an aerodrome, operating site or outlanding site that can be reached and used safely in accordance with normal operating procedures and the applicable rules of the air. The safe landing option may be the point of departure.
- (b) In order to focus on a safe landing option, the pilot-in-command considers, among other things:
  - (1) the suitability and operating requirements of the chosen landing site;
  - (2) the technical suitability of the sailplane; and
  - (3) his or her experience, including outlanding training, when applicable.

**GM1 SAO.OP.145 In-flight fuel or other energy management — powered sailplanes**

GENERAL

'Fuel or other energy management' refers to the pilot-in-command being aware of the fuel or other energy-used-for-propulsion state of the powered sailplane. If the pilot-in-command intends continuation of the flight in pure gliding, this includes awareness of actual range with or without expected thermals or other sources of updraft.

**AMC1 SAO.OP.150 Use of supplemental oxygen**

GENERAL

When the pilot-in-command cannot determine how the lack of oxygen might affect the persons on board, he or she should ensure that all occupants use supplemental oxygen for any period when the pressure altitude is above 10 000 ft.

**AMC1 SAO.OP.155 Sailplane specialised operations**

CRITERIA FOR SAILPLANE SPECIALISED OPERATIONS

The pilot-in-command or the operator should consider the following criteria to determine whether an activity falls within the scope of sailplane specialised operations:

- (a) special equipment affecting the behaviour of the sailplane in flight is necessary to fulfil the task;  
or
- (b) persons leave the sailplane during flight.

**GM1 SAO.OP.155 Sailplane specialised operations**

LIST OF OPERATIONS

- (a) Sailplane specialised operations include the following activities:
  - (1) parachute operations;
  - (2) aerial advertising flights, i.e. banner towing with powered sailplanes;
  - (3) news media flights, television and movie flights; and
  - (4) flying display.
- (b) The following operations are not considered sailplane specialised operations, but normal operations:
  - (1) sailplane towing;
  - (2) competition flights; and
  - (3) aerobatic flights.

**GM2 SAO.OP.155 Sailplane specialised operations**

CATEGORISATION OF OPERATIONS

The pilot-in-command or the operator determines whether the activity falls within the scope of a sailplane specialised operation. For this determination, the pilot-in-command or the operator considers the criteria in point AMC1 SAO.OP.155 and the activities listed in point (a) of point GM1 SAO.OP.155.

**AMC1 SAO.OP.155(b) Sailplane specialised operations**

CHECKLIST — GENERAL

- (a) The checklist should take into consideration the latest technical publications and recommendations from the:
  - (1) type certification holder;
  - (2) Agency; and
  - (3) competent authority.
- (b) The use of a generic checklist, for example one developed by an association, should be acceptable, provided the pilot-in-command adapts it, if required, to address specific or local risks.

**AMC2 SAO.OP.155(b) Sailplane specialised operations**

CHECKLIST FOR PARACHUTE OPERATIONS

The checklist for parachute operations should contain:

- (a) normal, abnormal and emergency procedures;
- (b) relevant performance data;
- (c) required equipment;
- (d) any limitations such as maximum take-off mass and minimum landing mass;
- (e) any possible shift of the centre of gravity; and
- (f) responsibilities and duties of the pilot-in-command and, if applicable, of any other crew member.

**GM1 SAO.OP.155(b) Sailplane specialised operations**

DEVELOPMENT OF CHECKLIST

In order to develop a checklist, the pilot-in-command or the operator takes into account at least the following items:

- (a) nature and complexity of the activity:
  - (1) the nature of the flight and risk exposure;
  - (2) the complexity of the activity taking into account the necessary pilot skills and level of experience, ground support, safety, and individual protective equipment;
  - (3) the operational environment and geographical area; and
  - (4) the result of the risk assessment and evaluation;
- (b) sailplane and equipment:

All equipment required for the activity should be listed;
- (c) crew member(s):
  - (1) crew composition;
  - (2) duties of the crew member(s);
  - (3) minimum crew experience and training provisions; and
  - (4) recency provisions;
- (d) normal, abnormal and emergency procedures:
  - (1) operating procedures for the flight crew; and
  - (2) ground procedures for the crew member(s); and
- (e) records:

It should be determined which records specific to the flight(s) are to be kept, such as task details, sailplane registration, pilot-in-command, flight times, weather and any remarks, including a record of occurrences affecting flight safety or the safety of persons or property on the ground.

SUBPART POL

**PERFORMANCE AND OPERATING LIMITATIONS**

**GM1 POL.100 Weighing**

INSTRUCTIONS FOR CONTINUING AIRWORTHINESS AND PERSONNEL REQUIRED

- (a) The weighing is conducted in accordance with the applicable instructions for continuing airworthiness (maintenance manual), as laid down in point (b)(3) of point M.A.401 of Annex I to Regulation (EU) No 1321/2014<sup>7</sup>.
- (b) The weighing is a maintenance action, which requires a release to service by personnel specified in point (b) of point M.A.801 of Annex I to Regulation (EU) No 1321/2014.

SUBPART IDE

**INSTRUMENTS, DATA AND EQUIPMENT**

**GM1 SAO.IDE.100 Instruments and equipment — general**

INSTRUMENTS AND EQUIPMENT NOT REQUIRED

- (a) Non-required instruments and equipment do not need to be approved in accordance with airworthiness requirements. However, their installation needs to be approved in accordance with these requirements, as part of which the instrument or equipment is accepted for installation on a non-hazard basis.
- (b) The failure of additional, non-installed instruments or equipment not required by this Annex or by the applicable airworthiness requirements or any applicable airspace requirements should not adversely affect the airworthiness or the safe operation of the sailplane. Examples may be PEDs carried by a crew member or a passenger.

**GM1 SAO.IDE.100(a)(3) Instruments and equipment — general**

PERMANENTLY INSTALLED

‘Permanently installed’ refers to an installation that requires a release to service in accordance with point M.A.801 of Annex I to Regulation (EU) No 1321/2014.

**AMC1 SAO.IDE.105 Flight and navigational instruments**

INTEGRATED INSTRUMENTS

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,

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<sup>7</sup> Commission Regulation (EU) No 1321/2014 of 26 November 2014 on the continuing airworthiness of aircraft and aeronautical products, parts and appliances, and on the approval of organisations and personnel involved in these tasks (OJ L 362, 17.12.2014, p. 1).



and the equivalent safety of the installation should be approved during type certification of the sailplane for the intended type of operation.

**AMC1 SAO.IDE.105(a)(1) Flight and navigational instruments**

MEANS OF MEASURING AND DISPLAYING THE TIME

A means of measuring and displaying the time in hours and minutes may be a wristwatch capable of the same functions.

**AMC1 SAO.IDE.105(a)(2) Flight and navigational instruments**

SCALING OF THE MEANS FOR MEASURING AND DISPLAYING PRESSURE ALTITUDE

- (a) The instrument measuring and displaying pressure altitude should be of a sensitive type, scaled in metres (m), with a sub-scale setting, scaled in hectopascals/millibars, adjustable for any barometric pressure likely to be set during flight.
- (b) Scaling in feet (ft) is also acceptable.

**AMC1 SAO.IDE.105(a)(3) Flight and navigational instruments**

SCALING OF THE INSTRUMENT INDICATING AIRSPEED

- (a) The instrument indicating airspeed should be scaled in kilometres per hour (kph).
- (b) Scaling in knots (kt) or in miles per hour (mph) is also acceptable.

**AMC1 SAO.IDE.105(a)(4);(b)(3) 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.

**GM1 SAO.IDE.105(b) 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 refers to a condition where the sailplane is still operating under visual flight rules (VFR), under visual meteorological conditions (VMC), although 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, in a desert or in 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 SAO.IDE.120 Life-saving and signalling equipment — flights over water**

RISK ASSESSMENT

In order to determine the risk, the pilot-in-command should take the following operating environment and conditions into account:

- (a) water state;

- (b) water and air temperatures;
- (c) the distance from land suitable for making an emergency landing; and
- (d) the availability of search and rescue facilities.

**AMC2 SAO.IDE.120 Life-saving and signalling equipment — flights over water**  
SIGNALLING AND LIFE-SAVING EQUIPMENT

Based on the risk assessment, the pilot-in-command should determine the carriage of:

- (a) a life jacket or equivalent individual flotation device for each person on board that should:
  - (1) be worn or stowed in a position that is readily accessible from the seat of the person for whose use it is provided; and
  - (2) be equipped with a means of electric illumination for the purpose of facilitating the location of persons;
- (b) an emergency locator transmitter (ELT) or a personal locator beacon (PLB), capable of transmitting simultaneously at 121.5 and 406 MHz, or an equivalent registered emergency locator, carried by the pilot-in-command, any other crew member or a passenger; and
- (c) signalling equipment for making distress signals.

**AMC3 SAO.IDE.120 Life-saving and signalling equipment — flights over water**  
BRIEFING ON PLB USE

When a passenger carries a PLB, he or she should be briefed on its characteristics and use by the pilot-in-command or a person designated by the operator before the flight.

**AMC4 SAO.IDE.120 Life-saving and signalling equipment — flights over water**  
ELT AND PLB REGISTRATION AND OPERATION PROVISIONS

- (a) Any ELT and PLB carried should be registered with the national agency responsible for initiating search and rescue, or another nominated agency.
- (b) Any ELT carried should operate in accordance with the relevant provisions of Volume III of ICAO Annex 10 to the Chicago Convention, 'Aeronautical telecommunications'.

**GM1 SAO.IDE.120 Life-saving and signalling equipment — flights 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 at designated frequencies, is stand-alone, portable, and is manually activated by the survivors.

**AMC1 SAO.IDE.125 Life-saving and signalling equipment — search and rescue difficulties**

GENERAL

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

- (a) at least one ELT, one PLB or one equivalent registered emergency locator;
- (b) signalling equipment for making distress signals; and
- (c) additional survival equipment for the route to be flown taking account of the number of persons on board.

**GM1 SAO.IDE.125 Life-saving and signalling equipment — search and rescue difficulties**

AREAS IN WHICH SEARCH AND RESCUE WOULD BE ESPECIALLY DIFFICULT

The phrase 'areas in which search and rescue would be especially difficult' refers to:

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

**GM2 SAO.IDE.125 Life-saving and signalling equipment — search and rescue difficulties**

SIGNALS

The signals for making distress signals are described in Regulation (EU) No 923/2012.

**AMC1 SAO.IDE.130 Radio communication equipment**

GENERAL

When radio communication equipment is required, it should:

- (a) be capable of conducting two-way communication with those aeronautical stations and on those frequencies prescribed for the respective airspace; and
- (b) provide for communication on the aeronautical emergency frequency 121.5 MHz.

**GM1 SAO.IDE.135 Transponder**

GENERAL

Under point SAO.IDE.135, the carriage of a secondary surveillance radar (SSR) transponder is only required, when operating in a portion of airspace designated by the competent authority as a transponder mandatory zone in accordance with point (b) of point SERA.6005 of the Annex to Regulation (EU) No 923/2012.

SUBPART DEC

**DECLARATION**

**GM1 SAO.DEC.100 Declaration**

GENERAL

The declaration's purposes are to:

- (a) have the operator acknowledge its responsibilities under the applicable safety regulations and that it holds all necessary approvals;
- (b) inform the competent authority of the existence of an operator; and
- (c) enable the competent authority to fulfil its oversight responsibilities.

**AMC1 SAO.DEC.105(a) Changes to the declaration and cessation of commercial operations**

CHANGES

The new declaration should be submitted before the change becomes effective, indicating the date as of which the change would apply.